# DATA-DRIVEN INSTRUCTION FROM THE PERSPECTIVE OF ADMINISTRATORS AND TEACHERS

A DISSERTATION

SUBMITTED TO THE GRADUATE SCHOOL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE

DOCTOR OF EDUCATION

BY

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BALL STATE UNIVERSITY

MUNCIE, IN

DECEMBER 2018

SIGNATURE PAGE

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# ABSTRACT

DISSERTATION PROJECT: Data-Driven Instruction from the Perspective of Administrators and Teachers

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COLLEGE: Teachers

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PAGES: 114

This study took place in an urban high school that implemented the data-driven school improvement plan after it received a grade of "F" in 2010. This school experienced significant growth during the next three years and received a letter grade of "C" in 2011, "B" in 2012, and "A" in 2013. I examined the role of the school administrators and teachers in implementing a school improvement plan that utilized a data-based decision-making model as well as strengths and weaknesses of the implementation. I specifically studied the principals' relationship to the teachers, the teachers' relationships to each other, and the teachers' relationships with the students when they were using data to drive the instructional process. I also examined the expectations and processes the administrators established to ensure the appropriate use of data. The qualitative data was collected from teacher learning log meeting agendas and administrator interviews utilizing the data analysis software NVivo as a tool to organize and sort the data. The data-driven decision-making process presented in this study provided examples of teachers and administrators working together to meet the needs of students. The process provided a non-threatening culture where student achievement and educational practices aligned to ensure that

student needs were addressed at their individual levels and educational leadership and collaboration thrived among educators.

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## INTRODUCTION

As a veteran educator of 25 years, I have personally witnessed the change in school accountability based on high stakes testing and student academic performance. As school accountability has increased, so has the need to ensure that every student is achieving at his or her highest level. This led to many school improvement models and multiple initiatives aimed at raising student achievement. Educators attempt to reach students by using different instructional strategies and methods to address the different learning styles. One of the growing trends in school improvement strategies is data-driven instruction. Data-driven instruction is the use of student data to drive the instructional practices, which are used daily in the classroom, to ensure that every student's individual learning style and needs are addressed (Laffee, Dawson, Alwin, & Yeagley, 2002). This is what it means to be a data-driven school (Mandinach & Honey, 2008).

My interest in using data to drive instructional practices and the decision-making process in the educational setting began 11 years ago when I became the principal of a middle school. My school consistently performed well enough to avoid negative press and pressure from the Department of Education, but not well enough to ever see any real gains as a school or perform at the top level. The teachers were satisfied with the status quo and I realized very quickly that they were not going to change their practices simply because I believed we needed to, but they might be more motivated toward change if they had appropriate and reliable data that indicated change was necessary. I believed that, as a faculty and staff, if we weren't going forward we were going backward. Once we began to delve into our student's academic data, our teachers began to realize that we were obligated to help our students if we could. This began my research around using data to drive the instructional decision-making process.

I wanted to study the role of the building administrators in the process of implementing a data-driven model in their schools. I had observed the data-driven process in multiple schools and it seemed that while each administrator must play an active role in this process, each has their own approach to the process. I was also interested in how each administrator addressed the barriers and concerns of this process.

**Purpose of the Study**

The purpose of this qualitative study was to address my research questions regarding the role of the school administrator in the implementation of a data-driven decision school improvement plan. A qualitative study enabled me to explore the relationship of the principal's approach to data-driven instruction and to gain a deeper understanding of the data-driven process by discerning common themes among the participants. I was not looking for a relationship of correlation as would be found in quantitative research. I specifically studied the principals' relationship to the teachers, the teachers' relationships to each other, and the teachers' relationships with the students when they were using data to drive the instructional process. I also examined the expectations and processes that the principal established to ensure the appropriate use of data.

**Research Questions**

The research questions that will guide my study are:

1. In a district that is implementing a data based decision-making process as their school improvement model, what is the role of the school administrator?
2. What are the strengths as well as the barriers and concerns in the implementation of this process?

**Limitations**

The following limitations were in place for this research:

1. Only one educational level, a high school, was a part of the research. However, this study was conducted at a school with 1,800 students and included two administrators and four English 10 teachers and four Algebra 1 teachers. For a qualitative study those two departments were well represented.
2. At the time the research was performed, and the data was collected, I supervised the secondary schools of this district. While I did not directly evaluate these administrators or teachers, I was responsible for their school and their student achievement. There were less weaknesses and barriers identified and perhaps the teachers and administrators would have been more explicit if an external person had done the research.

**Definition of Terms** The key terms used throughout the dissertation are defined below:

***8-Step Process*:** A school improvement model based on a Plan, Do, Check, Act instructional model that includes eight steps: data disaggregation, curriculum timeline, instructional focus, assessment, tutorials/remediation, enrichment, maintenance, and monitor (Davenport & Anderson, 2002).

***Acuity Assessments*:** Online formative and benchmark assessments that are produced by CTB McGraw Hill and are aligned with the Indiana Department of Education's standards and curriculum maps (McGraw Hill Education - CTB Acuity Website, n.d.).

***Adequate Yearly Progress (AYP)*:** Is an accountability system to ensure that every American student is proficient on all state academic standards for reading, language arts, mathematics, and science (Shannon, 2004,).

***Data-Driven Schools*:** The use of student data to drive the instructional practices, which are used on daily basis in the classroom, to ensure that every student's individual learning style

and needs are addressed is what it means to be a data-driven school (Mandinach & Honey, 2008).

***Data Literacy*: "…** is the ability to understand and use data effectively to inform decisions. It is composed of a specific skill set and knowledge base that enables educator to transform data into information and ultimately into actionable knowledge …" (Mandinach & Honey, 2008, p. 20).

***Formative Assessment*:** The goal of formative assessment is to monitor student learning to provide ongoing feedback that can be used by instructors to improve their teaching and by students to improve their learning. More specifically, formative assessments: help students identify their strengths and weaknesses and target areas that need work and help teachers recognize where students are struggling and address problems immediately. Formative assessments are generally low stakes, which means that they have low or no point value (Eberly Center: Teaching Excellence & Educational Innovation, n.d.).

***Indiana Statewide Testing for Educational Progress (ISTEP)*:** Is a program is to measure student achievement in the subject areas of English/Language Arts, Mathematics, Science (Grades 4 and 6), and Social Studies (Grades 5 and 7). ISTEP reports student achievement levels according to the Indiana Academic Standards that were adopted by the Indiana State Board of Education. An applied skills assessment and a multiple-choice assessment, which are required components of the *ISTEP+* program, are used to measure these standards (Indiana Department of Education, n.d.).

***Indiana Student Achievement Institute (INSAI)*:** A school improvement model based on local benchmark assessments and ISTEP data facilitated by the American Student Achievement Institute (The American Student Achievement Institute, 2006).

***Learning Log Meeting*:** A meeting where grade level and subject level teachers meet with an administrator and data coach to review the latest trend data for their students and develop a plan to address the needs of their students based on this data (Davenport & Anderson, 2002).

***No Child Left Behind Act of 2001 (NCLB)*:** Established the goal that 100% of all K-12 students would be performing at grade level in both math and reading by the year 2014(U.S. Department of Education, n.d.).

***Public Law 221 (PL221)*:** Indiana's comprehensive accountability system for K-12 education. Passed by the Indiana General Assembly in 1999 (prior to the federal No Child Left Behind Act of 2001), the law aims to establish major educational reform and accountability statewide. To measure progress, PL 221 assigns Indiana schools (both public and accredited non-public) easy to understand A-F letter grades (Indiana Department of Education, n.d.).

***Summative Assessment*:** The goal of summative assessment is to evaluate student learning at the end of an instructional unit by comparing it against some standard or benchmark. Summative assessments are often high stakes, which means that they have a high point value. (Eberly Center: Teaching Excellence & Educational Innovation, n.d.)

**Summary**

Researching data-driven decision-making is valuable to the field of education today because of the continual pressure schools face to perform well on high stakes tests. Educators understand that test results are used to determine if schools are successful. High stakes testing, and accountability have their downfalls, but those policy initiatives have brought to light that educators can do much more for their students to help them achieve academically (Wiggins, 2010). Schools that use data consistently and effectively have seen dramatic increases in student

academic achievement because teachers are using the data to drive what takes place daily in the classroom (Laffee, Dawson, Alwin, & Yeagley, 2002).

# CHAPTER TWO

# LITERATURE REVIEW

Data-driven schools is a common phrase that educators continually hear in the field of education, but what does it mean to be a data-driven school? Mandinach and Honey (2008) define a data-driven school as when a school uses student data to drive the daily instructional practices in the classroom, to ensure that every student's individual learning style and needs are addressed. This is a skill that must be developed by educators to ensure proper utilization of the data that is gathered.

The act of using this information in an effective way is described as data literacy. Data literacy is "the ability to understand and use data effectively to inform decisions. It is composed of a specific skill set and knowledge base that enables an educator to transform data into information and ultimately into actionable knowledge" (Mandinach & Honey, 2008, p. 20).

There are many models of school improvement that are being implemented today and those that show sustained academic improvement for students use student data that is collected regularly in short increments and used to address the individual needs of each student (Laffee, Dawson, Alwin, & Yeagley, 2002). These models include teachers and administrators that understand data literacy and then use the information that is gathered to drive their instructional practices.

The purpose of this study is to identify the roles of the building level administrators, and teachers implement as they use student academic achievement data to drive instructional practices in the classroom. There are two main models that I have looked at, the 8-Step Model by Pat Davenport and the other by William Saunders. Both employ the basic Plan, Do, Check, Act model (Davenport & Anderson, 2002, p. 60).

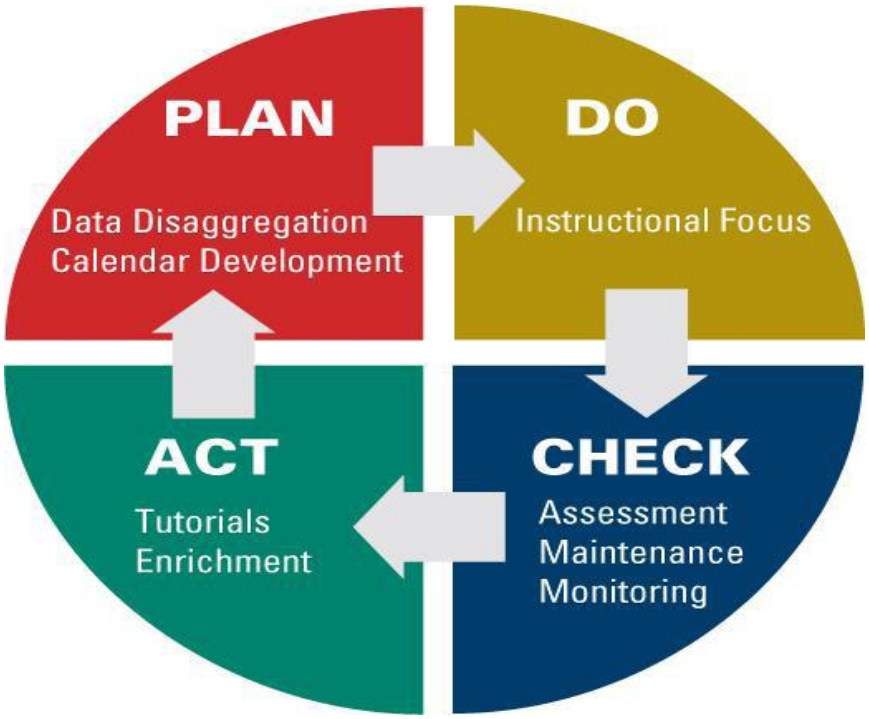


*Figure1.* Plan-Do-Check-Act School Improvement Model (Davenport, 2010)

District administrators, building administrators, and teachers all play different, yet vital, roles in each of these areas.

This model indicates that when student data is disaggregated appropriately, and action plans are developed accordingly, student achievement is impacted positively (Davenport & Anderson, 2002). Some of the variables that affect this process are reliable data points, appropriate interpretation of the data, understanding how to use data, time for planning based on the data, and a common vision for this process (Davenport, 2010).

This study is important to the field of education because it will study the relationship of the building principals in the process of using student data to drive instructional practices. Teachers, school administrators, and corporate administrators all play key roles in this process,

yet each is peculiar to the individual position. I will also look at the barriers and identify solutions that can be employed to navigate these barriers.

## The Historical Perspective of Using Data

School accountability is not a new idea in education. The battle between standards and the customization of curriculum have been debated for many years. The No Child Left Behind Act of 2001 (NCLB) is thought by many to be the beginning of school accountability. While it is true that NCLB refocused the nation's attention on accountability, educational accountability began in the nineteenth century when schools tested their students for mastery and those who did not pass where retained (Ravitch, 2002). Teachers were also required to pass a test of their knowledge. In 1900 students who applied to enter Harvard, Princeton, and Yale were required to pass specific admission exams. During the 1930s and 1940's, Progressivism supported student testing in an effort to place education on a scientific plan. This was also the time when social promotion began to gain ground in part to keep young people in school and out of the job market (Ravitch, 2002). In 1965 the Elementary and Secondary Education Act required schools that received Title 1 funds to make Adequate Yearly Progress (AYP) in their test scores.

In 1966 a report entitled *Equality of Educational Opportunity*, also known as the Coleman Report, compared the redistribution of resources and opportunities among children of different races as well as the achievement scores or outcomes (Coleman et al., 1966). This report shifted the focus from inputs to results (Ravitch, 2002). In 1983, *The Imperative for Educational Reform* report was prepared for President Reagan by the National Commission on Excellence in Education (NCEE) and identified pervasive academic underachievement and declining test scores in the United States. The report ushered in the era of standards and accountability in public K-12 education (Hiller, Tommaso, & Plucker, 2012,). NCLB had a goal that 100% of all

K-12 students would be performing at grade level in both math and reading by the year 2014. This goal has been the driving force behind school accountability at the national level. Prior to NCLB, the goals of the Elementary and Secondary Education Act (ESEA) were to provide equal access to education, establish high standards and accountability, and close the achievement gaps. While these are good and admirable goals, NCLB established clear goals of all children performing at grade level.

Individual states also have accountability measures. The state of Indiana, which is the state where the data is being collected for this study, first responded to the calls for educational reform from Governor Robert D. Orr and State School Superintendent H. Dean Evans in the year of 1987 with the "A+ Program". The A+ Program created a performance-based system of accreditation and awards, added five days to the school year, established the Indiana Principal Leadership Academy, and implemented the Indiana Statewide Testing for Educational Progress (ISTEP) program (Hiller et al., 2012).

During the next 12 years there was much debate about the effectiveness of the educational system of accountability. In 1999, the Indiana General Assembly enacted the next round of educational accountability reform. Indiana PL 146 and Indiana PL 221 were passed at the same time and were intended to complement each other. PL 146 established the Indiana Educational Roundtable with the purpose of making recommendations on educational matters to the Indiana State Board of Education. The Roundtable is chaired by the governor and the state superintendent, and its members include representatives from the business, labor, higher education, and K-12 education communities, as well as other community leaders. Although the group can make recommendations regarding any educational matter, their primary role, as codified in the legislation, is to review and make recommendations on academic standards and

assessments as found in IND CODE § 20-19-4, 2005 (Education Roundtable, 2005). PL 146 also called for the Indiana Department of Education (IDOE) to adopt academic standards for every grade level from kindergarten through Grade 12 for English, mathematics, social studies, and science that should be based in part, on the results of ISTEP+ testing. These standards developed by the IDOE are to be reviewed by the Education Roundtable in order to comply with the section of legislation that states the standards are to "clear, concise, and jargon free" IND CODE § 20-19-4 (Education Roundtable, 2005), allowing them to be easily understood not only by administrators and teachers, but also by parents and community members. To ensure that the standards would remain current through the years, the standards for each subject area are to be reviewed/revised every six years, in conjunction with the textbook adoption for each subject IND CODE § 20-31-3-3 (Revising and updating academic standards, 2005). State standards must align with the needs of college and career requirements (Rothman, 2012). PL 221 created a performance-based system of accreditation and accountability, financial incentives for high-performing schools called Student Educational Achievement Grants, funding for professional development, and annual performance reporting. PL 221 also adapted three-year school improvement plans, to be revised annually, as a core component of the new accountability system. These elements and their framework form the bulk of this legislation (Hiller et al., 2012).

The earlier established PL 221 had differing accountability measurements than NCLB. NCLB categorized student performance by Annual Yearly Progress (AYP) and PL 221 categorized student performance in one of five different categories. Therefore, the IDOE had to equate AYP with their measurement scale in some manner so if a school or district failed to meet

AYP for two consecutive years, schools or districts could not be categorized any higher than "Academic Progress" regardless of their students' performance and state categorization.

In 2005 the Indiana General Assembly determined many of the parameters for education in our state. The ISTEP assessment process was the subject of many public laws based on House and Senate Enrolled Acts. IND CODE § 20-32-5 established the intended purpose of the ISTEP assessments, guidelines for what subjects would be tested, the content of the tests, and the duties of the state superintendent, the state school board, and the department of education. For more information, please refer to Appendix A.

In 2005, the US Department of Education passed a new policy that permitted states to create alternate assessments for students with disabilities.

The U.S. Department of Education recently announced a new policy with respect to students with persistent academic disabilities under the bipartisan No Child Left Behind (NCLB) education reform law.

> **New Policy:** States may develop modified academic achievement standards and use alternate assessments based on those standards for students who have persistent academic disabilities and are served under the Individuals with Disabilities Education Act. States may include proficient scores from such assessments in making adequate yearly progress (AYP) decisions but those scores will be capped at 2% of the total tested population. This provision does not limit how many students may be assessed against modified achievement standards. Individualized education program (IEP) teams will make the decision about which individual students should take such an assessment.
>
> **Continued Policy:** States may continue to use alternate assessments based on alternate achievement standards for students with the most significant cognitive disabilities. States may continue to include proficient scores from such assessments in making AYP decisions and those scores will still be capped at 1% of the total tested population. Proficiency for all other students above the 1% and 2% cap will be measured against grade-level achievement standards. IEP teams will continue making the decision about which individual students should take such an assessment. ("U.S. Department of Education," 2005, para. 2)

Indiana created the Indiana Standards Tool for Alternate Reporting (ISTAR) to use as an assessment for students who are significantly below grade level and have personal learning

goals. The percent of students that are permitted to participate in these assessments are limited to 1% of the total number of students tested.

The IDOE also created the Indiana Modified Achievement Standard Test (IMAST) for students with disabilities who were still on track to earn a diploma. This assessment aligned the-grade appropriate standards with the ISTEP assessment and is an appropriate assessment tool for the qualifying students and as a result many of these students began to see success on the assessments. The number of students participating in the IMAST assessment as well as the percent of students passing has increased every year in the state of Indiana (see Table 1).

Table 1. *Number of students who took IMAST and the percent passing*

| Year | Number of students who took IMAST | Percent of students who passed both English and Math |
|---|---|---|
| 2010 | 5,340 | 49% |
| 2011 | 10,756 | 52% |
| 2012 | 14,647 | 54% |
| 2013 | 15,214 | 53% |

(Indiana Department of Education Compass, 2014)

The number of students who were permitted to use this assessment was not limited, but each the school district could only designate 2% of their total tested students as IMAST students. This means that if a district has more than 2% of their total tested population of students take the IMAST and pass they cannot count these students as passing for their district passing rate, so these students are then classified as "not passing" and lower the district's accountability score. Every year, district leaders have to decide which students are going to count against them and then submit those students name to the DOE. The 2013-2014 school year will be the last year that students in the state of Indiana will be permitted to be assessed using the IMAST assessment. As a condition of the approved wavier from the Adequate Yearly Progress (AYP)

federal accountability process, the IMAST assessment that has been used by many students in the state of Indiana will no longer exist. This means that those students who have experienced success with the IMAST assessment will now have to begin taking the ISTEP assessment again. This could have a negative impact on the students who have experienced success with the IMAST assessment.

The scoring expectations of the ISTEP assessments are established in IND CODE § 20-32-5. These expectations have been consistent since their inception in 2005 with exceptions in the areas of essay questions and the inspection of student's scores. Please refer to Appendix B.

The IDOE began to implement changes to school accountability and performance measures as well as the classifications for school performance in January of 2011. One of the IDOE's concerns was to meet the requirements of IND CODE § 20-31-3-1(Revising and updating academic standards, 2005), which called for "clear, concise, and jargon free" language in the school accountability measures. IDOE did not believe that this was fulfilled with the current system. Part of the new accountability measures was based on applying for and obtaining a waiver from the United States Department of Education (USDE) from the requirements of the Federal Guidelines included in AYP. In early 2012 the USDE granted the wavier to the state of Indiana and nine other states as well. Then, based on a 6-2 vote by the State Board of Education (SBOE) the IDOE began to implement the new framework for school accountability measures. The IDOE plan had three parts: first, it aimed to separate AYP from state accountability; second, it revised the criteria used to place schools in accountability categories; and third, it adopted letter grades for accountability determinations to clarify the murky "performance and improvement" categories. The elementary and middle school models base the schools' grades on students' performance in English/Language Arts (ELA) and Math.

The high school model is based on End of Course Assessment (ECA) scores in Algebra I and English 10, as well as attendance rates, graduation rates, and college and career readiness.

Currently school reform is based on student academic achievement data and this means educators must learn how to best use the data that is available to drive instruction in the classroom daily "Educators need to gain data literacy skills to inform practice. Although some professional development opportunities exist for current educators, fewer formal courses and opportunities for data literacy development in schools of education have been developed and implemented" (Mandinach & Gummer, 2013, p. 30). This is a change from just having data to now using the data daily to drive instruction (Davenport & Anderson, 2002).

## What Works with the Data Decision-Making Process

At this point I must clarify that while educators may say that they have used data for years, it is crucial to articulate that what I am describing is not having binders of data from ISTEP, ECA's or other yearly testing. Educators must use data that is collected on a regular basis from multiple sources and address the individual needs of students. Good teachers know how each of their students learns and this influences what they do in their classroom and how their teaching strategies address the student's learning styles (Fahey, 2013).

Research has indicated that teachers have the biggest impact on student learning and the challenge is how to influence teachers (Marzano, Marzano, & Pickering, 2003). Teachers and schools are the primary factor in student achievement (Jensen, 2013). "The most powerful strategy for improving both teaching and learning, however, is not by micromanaging instruction but by creating the collaborative culture and collective responsibility of a professional learning community" (DuFour & Mattos, 2013, p. 37).

Teachers are continually challenged to fit more into the daily schedule in their classrooms. The key is finding a way to ensure that all teachers are teaching more effectively, more frequently (DuFour & Mattos, 2013; Barnett, 2011). Data many times is viewed as something that is happening to teachers. Data often comes from state or even federal assessments and teachers do not see this type of data as providing the full picture (Harvey, 2014). "In a study by the Gates Foundation, 60% of teachers said that student engagement was a 'very accurate' measure of a teacher's performance, but just 7% said the same about student scores on standardized tests" (Scholastic & Bill and Melinda Gates Foundation, 2010, p. 4). Educators use formal and informal assessments, benchmark assessments, previous academic performance, class presentations, and projects to gain a comprehensive picture of each student. Research has indicated that when teachers are provided with consistent meeting times, instructional leadership, and explicit protocols for meetings there are significant gains in academic achievement (Saunders, Goldernburg, & Gallimore, 2009; Little, 2012).

Saunders, Goldernburg, and Gallimore (2009) suggested the following protocol should be used by grade-level teams to focus their meeting:

1. Identify and clarify specific and common student needs to work on together.
2. Formulate a clear objective for each common need and analyze related student work.
3. Identify and adopt a promising instructional focus to address each common need.
4. Plan and complete necessary preparation to try the instructional focus in the classroom.
5. Try the team's instructional focus in the classroom.
6. Analyze student work to see if the objective is being met and evaluate the instruction.
7. Reassess: Continue and repeat cycle or move on to another area of need.

Davenport and Anderson suggested that these 8-Steps are followed in the implementation of the data based decision-making process (see Figure 2):

1. Data disaggregation: analyze student performance data to inform instruction.
2. Curriculum timeline: establish a timeline teaching the identified essential knowledge and skills.
3. Instructional focus: direct instruction to students with focus on specific skills and standards.
4. Assessment: assess student progress on the standards using formative, standards based, and summative, comprehensive, assessments.
5. Tutorials/Enrichment: provide time to re-teach those students who have not yet become proficient.
6. Enrichment: provide enrichment opportunities for students who are proficient.
7. Maintenance: provide ongoing maintenance to ensure students retain mastery of the standards.
8. Monitor: monitor all progress of students through data meetings, collaboration among staff, and focused leadership.

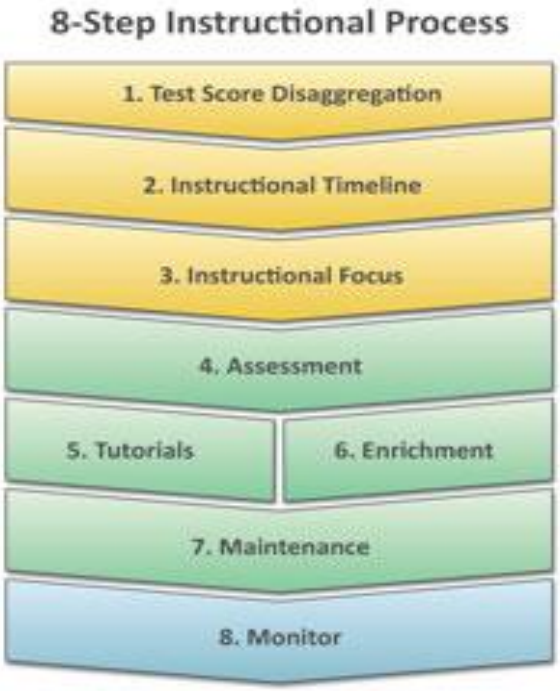


*Figure 2.* 8-Step Process (Davenport, 2010)

These two examples recommended consistent meeting times, instructional leadership, and explicit protocols for these data meetings and suggested that these protocols should produce significant gains in academic achievement (Saunders, Goldernburg, & Gallimore, 2009). The key to these processes is the fidelity of the implementation. "Data can help teachers to monitor their constantly changing environment, their functioning and to what extent curriculum aims are met and react to timely and in an evidence-based manner when problems need to be solved" (Schildkamp & Kuiper, 2010).

School administrators can have a substantial impact on the teachers by communicating the importance of using to data to drive the decision-making process (Mandinach et al., 2009). Schools that had leaders who were supportive and enthusiastic about the use of data and set established a clear vision and expectations for the use of data had much more buy in from their teachers (Schildkamp & Kuiper, 2010, p. 40). Principals also influence the use of student data

by empowering their teachers. The idea of teacher empowerment is crucial to the academic success of our students. Teacher empowerment is not simply allowing teachers to teach whatever they want, when they want, but rather there must be a spirit of collaboration from district administrators, building administrators, and teachers (Saunders et al., 2009, p. 1029; Strasser, 2014).

Another way that school administrators influence teachers is through their own use of student data. School administrators also use student academic performance data to identify grade, class, and school wide strengths and weaknesses (Smith, Johnson, & Thompson, 2012). This information provides direction for professional development and strategic planning for the school (Schildkamp & Kuiper, 2010; Bernhardt, 1998). This vision and strategic planning will prevent continual shifts in the focus of school improvement plans. Many times, schools will focus on math and then their ELA scores will rapidly decline or vice versa. Administrators should see the big picture and develop a strategic plan that addresses student needs but also provides balance (Johnson, 2013).

Principals need to be educational leaders and not just building managers (Mendels & Mitgang, 2013; Stewart, 2013; Hoerr, 2010). The focus of their positions must shift from cafeteria manager, registrar, disciplinarian, social worker, nurse, and chief financial officer to educational leader. Strong (2013) explained the importance of strong leaders in the school by stating “You can’t have great schools without having great teachers and principals”. Many years ago, principals were called principal teachers and this title is more appropriate for the role principals must play because principals must continue to understand effective teaching techniques and protocol (Elliot & Carson, 2009; Mendels & Mitgang, 2013). In the state of Indiana, there has been some push to lower the requirements for principal licensure, while the

pressure on principals continues to grow and the knowledge base required for the position increases. Principals must find a way to balance the mundane tasks with the educational tasks that will truly make a difference in students' academic achievement (Fahey, 2013).

Central office administrators also play a key role in academic achievement. As school administrator roles continue to change it is vital that central office administrators adjust their roles as well (Mendels & Mitgang, 2013). Based on a meta-analysis of the relationship between the district-level administrative actions and the average student achievement, there is an underlying relationship between district administrator's actions and student achievement. The meta-analysis indicated that the relationship was .24 and was statistically significant at the .05 level. This would equate to a gain of 9.5 percentile points for the average student (Marzano & Waters, 2009). This is quite a finding as district administrators typically do not provide any direct instruction to students.

What are the actions that district administrators can take that will impact student academic success? Pat Davenport stated, "We knew that the mission statement – no matter how eloquent – could not emanate from the school superintendent, our management group, or any other single department, its creation had to involve the entire school district" (Davenport & Anderson, 2002, p. 41). This inclusive vision must meet the needs of administrators and teachers. Earlier I mentioned the barriers to using student data to drive instruction and the role of district office administrators is to find ways to negate these barriers. The vision will then set the direction for all educational initiatives (Murray, 2012). Professional development must be provided for administrators and teachers alike so that they understand how to interpret and appropriately use data, so that both groups have a working understanding of the process and desired results

Central office administrators must define data literacy for the entire school system so that teachers and administrators understand the expectations and speak a similar language (Marzano, 2013). It is vital that schools and teachers feel empowered, but there must be established norms for the corporation. The use of data to drive instruction equates to data literacy. "Data literacy is the ability to understand and use data effectively to inform decisions. It is a composed skill set and knowledge base that enables educators to transform data into information and ultimately into actionable knowledge" (Mandinach & Gummer, 2013, p. 30). This is a major shift in practices for educators from lesson plans that were designed with a single approach to instruction to lesson plans that take into account the learning styles and needs of each student and, therefore, it is crucial that central office administrators understand their roles and function in those roles appropriately and intentionally. True change in practices is not going to happen simply by hiring good people, having a great program, or demanding that it happens. True change is the result of intentional actions and behaviors. Many times, educators do not know what to do differently and it is the responsibility of the central office administrators to provide the necessary tools and support to initiate and sustain change. According to Hall and Hord (2006), there are six essential functions in the change process:

1. Developing, articulating, and communicating a shared vision of the intended change
2. Planning and providing resources
3. Investing in professional learning
4. Checking on progress
5. Providing continuous assistance
6. Creating a context supportive of change

This list establishes important ideas that can help eliminate many of the barriers that were identified early on in this review such as collecting data from a single source, collecting data but never allowing it to influence what takes place in the classroom, testing that takes place once a year, and a lack of direction of how to use the data in their classrooms. Marzano and Waters also identified five specific actions for district leadership to consider (Marzano & Waters, 2009).

1. Ensuring collaborative goal setting
2. Establishing nonnegotiable goals for achievement and instruction
3. Creating board alignment with and support of district goals
4. Monitoring achievement and instructional goals
5. Allocating resources to support the goals for achievement

There are many similarities in these two lists. Central office administrators develop and articulate the vision and establish goals for the district (Marzano, 2013). Another key thought is the establishment of the "nonnegotiable" aspects. The district administrators must see the big picture and then establish the goals for the district and then they must enable and support the building administrators and teachers as they develop an action plan for their buildings with all the unique issues of their individual buildings. District administrators must also invest in professional learning in the appropriate areas to support these goals and in so doing must align the board support for these initiatives. This is a continual process that calls for teachers and school administrators to depend on central office administrators and central office administrators to continually depend on teachers and schools' administrators (Goren, 2012, p. 234). Another essential aspect that is mentioned in both lists is the idea of monitoring the process. Monitoring is a key component of using student data to drive instruction and it is also a key to making these

essential changes. "What gets monitored is what gets done" (DuFour, DuFour, Eaker, & Many, 2006, p. 20) is a philosophy that is found in schools that use data to drive instruction.

District administrators as well as school administrators are finding themselves in the coaching and counseling role as opposed to the authoritarian role that demands change (Honig, 2008; Louis, 2008; Mitgang, 2013). Teachers are the professionals in the classroom. When they are supported appropriately with professional development opportunities, given the necessary time for data disaggregation, and empowered to make appropriate decisions regarding the educational practices within their classrooms, the outcome is positive for students (Dobbertin, 2012). This may seem like administrators are taking a step back and removing themselves from the process, but the opposite is true. It is a matter of influence throughout the process by coaching and counseling (Honig, 2008; Louis, 2008; Mitgang, 2013).

**Barriers to the Data Decision-Making Process**

There are many barriers that are identified in using student data to drive instruction. The first one is in the area of administrative support, specifically in the areas of providing time for teachers to be able to collaborate regarding the data that is received. Teachers need time to discuss and interpret the results so that they can then develop a plan that addresses the needs of their students. Time is also necessary for teacher buy-in. Using data appropriately is a difficult task and administrators should consider that amount of time that is necessary for this initiative (Schildkamp & Kuiper, 2010; Reeves & Burt, 2006).

Accurate data is another barrier to using data in the decision-making process. There is a great amount of data that is collected today from the federal level, state level, and local level and while data is available, it is not all suitable for day-to-day planning in the classroom, "For assessment data to be useful for instructional planning they need to be current, accurate and in

the hands of knowledgeable decision makers at the appropriate levels" (Mandinach et al., 2009, p. 3). As Mandinach stated, student data need to be made available in a timely and accurate manner. Triangulation of data is suggested, and it is important for teachers to view the data in light of what they see on a daily basis in the classroom (Davenport & Anderson, 2002; Goren, 2012).

Understanding the data and being able to interpret the data is another barrier (Jaquith, 2013). Educators have not typically been trained in the area of data disaggregation. Providing meaningful and appropriate professional development is necessary. "Having mountains of data doesn't guarantee better decision-making. That requires expertise and time that district and school employees frequently lack, opening the way for misuse of data" (Mendels & Mitgang, 2013, p. 27). Teachers also must guard against "hyper-individualizing" the curriculum. It is important for teachers to remember that all students will not learn or master the information at the same time. Students will progress at different paces and the key is that they are progressing Professional learning communities or teacher groups have been found to be effective as a professional development model for relaying new techniques and strategies to teachers. These models also contribute to teacher collaboration, buy in, and support of one another (DuFour & Eaker, 1998; Hall & Hord, 2006; Williams et al., 2003; Saunders et al., 2009).

Closely related to proper use of the data, the interpretation of the data is another barrier because educators may interpret it differently. Therefore it is important to provide time for collaboration and implementation development among teachers and administrators.

> Our research suggests that teachers are more inclined to examine factors that contribute to individual patterns of behavior and to think on a case-by-case basis, rather than to look for patterns in data at different levels of aggregation, such as classroom-wide patterns.

> As a result, teachers' decision-making strategies often lack systematic approach, from student-to-student, classroom-to-classroom, and year-to-year are unintentionally tinged with personal bias, and ignore key statistical concepts like distribution, variation, and reliability. (Mandinach, Honey, & Light, 2009, p. 2)

Different groups of educators use data differently and a common vision will help with the systemic interpretation of data (Marzano & Waters, 2009). Another issue embedded in this barrier is at times educators will ignore difficult data. "Unintended responses occur if schools use data in undesirable ways. Schools use data in undesirable ways when they, for example, select only easy to use data to change, and ignore data that involve more complicated long-term improvement trajectories" (Schildkamp & Kuiper, 2010, p. 7).

The barriers to the data decision-making process are numerous, but they can be overcome by dedicated educators who will accept nothing less than the best that they can give to their students. This means focusing on what happens during the time that the students are at school. Barriers to the data decision-making process have been effectively addressed through the collaborative efforts of teachers, school administrators, and district administrators and when this happens, students benefit dramatically (Chenoweth, 2007, Behrstock-Sherratt & Rizzolo, 2014; Goodwin, 2014)).

**Summary**

School accountability based on student data is a growing trend in the world of education. The review of existing literature indicates that accountability has not yet reached the pinnacle, but rather there are still states that are continuing to add accountability measures based on student achievement data. The challenge with this is that "Most teachers see standardized tests as an inexact and partial measure of student learning at best. According to Public Agenda

research, only about 1 in 10 teachers considers student scores on district tests an excellent way to judge student learning" (Coggshall, Ott, Behrstock, & Lasagna, 2009, p. 2). Teachers have the most direct use of data and when used appropriately it can have a positive impact on student academic success.

The barriers that were identified in my review are valid concerns and they must be addressed in order for data to truly drive the decision-making process. Teachers and administrators have not been trained to use student data appropriately and while they are fully capable of this process, the appropriate training and time must be provided to facilitate this change in philosophy and practice (Goren, 2012). The importance of administrative support is necessary to this process at every level. Central office administrators must understand and commit to providing the resources necessary for the building level administrators. This means that building level administrators must receive assistance with building management tasks so that they are able to spend time reviewing data and classroom practices so that students' needs are addressed (Chenoweth, 2010). Building administrators must be committed to providing the resources such as flexible scheduling so that teachers have the time that they need to meet together.

Professional development also must be provided for all educators in the areas of data disaggregation and interpretation as well as formulating plans to address deficiencies. "Data-driven decision-making must become part of an educator's preparation. Educators must receive systematic training in how to use data, preferably beginning in their pre-service years, but continuing throughout their careers" (Mandinach & Gummer, 2013, p. 34). School boards and central office administrators must commit to this educational shift of using data to drive the decision-making process. This is a difficult task, but one that can have a positive impact on

students' academic success if it is implemented appropriately. Administrators must lead the way in this area as their attitudes and practices in data disaggregation set the stage for the entire school or school system and can have a positive or negative impact across the board. The vision of the school corporation must be established from the top in data based decision-making process. The vision establishes protocols that all schools adhere too and follow and when expectations are high for administrators, teachers and students everyone achieves more (Ross & Cousins, 1995).

My review focused on two different models that are used with the data-based decision-making process. Saunder's model used seven steps and Davenport and Anderson's model used 8 steps. Both are based on the plan, do, check, act models. I have personal experience with the Davenport and Anderson's 8-Step Process and I have found that when it is followed and implemented with fidelity appears to be powerful in addressing student needs and results in increased student achievement. This process is not just about testing. It is about much more it includes all of the steps mentioned before and monitoring is the step that ensures the validity of the other steps. Using student data to drive instruction is a test supported process. It isn't the tests that make this process effective it is all of the elements together (Popham, 2009). An essential element of the monitoring step is creating a culture where student data is not used to judge teacher's effectiveness, but rather the data is used to find solutions and ensure student academic achievement (Chenoweth & Theokas, 2013). An advantage to using a model as a district is, all stakeholders speak the same language and have a plan in place that is consistent from school to school and grade level to grade level.

The research indicates that accountability tied to high stakes testing does not show any signs of slowing down and, in fact, it appears that it will continue to increase in many states.

Educators, for the most part, do not question the need for standards, or even accountability, but the issue that they have is with the severity of the sanctions that take place because of the results (Abrams, Pedulla, & Madaus, 2010).

# CHAPTER THREE

# RESEARCH METHODS

Chapter Three includes the methods I used during my research. This chapter is organized with a review of my purpose statement, research questions, setting and methods. This chapter describes the setting of my research as well as the school improvement process that was utilized in the district and the methods I used during my research.

## Purpose of the Study

The purpose of this qualitative study was to address my research questions regarding the role of the school administrator in the implementation of a data-driven decision school improvement plan. A qualitative study enabled me to explore the relationship of the principal's approach to data-driven instruction and to gain a deeper understanding of the data-driven process by discerning common themes among the participants. I was not looking for a relationship of correlation as would be found in quantitative research. I specifically studied the principals' relationship to the teachers, the teachers' relationships to each other, and the teachers' relationships with the students when they were using data to drive the instructional process. I also examined the expectations and processes that the principal established to ensure the appropriate use of data.

## Research Questions

The research questions that will guide my study are:

1. In a district that is implementing a data based decision-making process as their school improvement model, what is the role of the school administrator?
2. What are the strengths as well as the barriers and concerns in the implementation of this process?

## Description of the Sample

When conducting this qualitative study, I used a case study of Middletown High School. The community of Middletown has a population of 70,000 according to the 2010 Census. As a community Middletown was transitioning from being an automotive town with multiple factories that provided services for the automotive industry to community where most of the jobs were connected to retail and restaurants. The population of Middletown has been relatively steady for the last 50 years, and the ethical makeup of the city has remained consistent as well over the last 20 years with 84% being white and the remaining 16% being a combination of African American, Native American, Asian, Pacific Islander, and Hispanic races. While the population of the city has remained relatively consistent over the last 50 years the population of Middletown Community Schools has not. In the early 1970's, Middletown Schools had a student population of 21,000 students. When this research was performed, Middletown Community School had a student population of 6,800 students. The drastic change in the manufacturing industry had changed the type of jobs that were available. This had impacted the makeup of the community from middle class families to the point that almost 75% of the students were free or reduced lunch students. During the 2009/2010 school year Middletown Community Schools, as a school corporation made an intentional move as a district to become a district that used student academic achievement data to drive instruction. The implementation of this process was unique at each level of instruction (elementary, middle school, high school) and was based on local benchmark assessments and the available state required assessments. The elementary schools began to use the 8-Step Process model based on local benchmark assessments, Acuity, and ISTEP data. The middle schools began to use the Indiana Student Achievement Institute, (INSAI) model based on local benchmark assessments and ISTEP data and the high school began to use the INSAI model based on local benchmark assessments and End of Course

Assessment (ECA) data. The move to using data-driven instruction was unified during the 2011/2012 school year and beginning in the 2012/2013 school year the middle schools and high school joined the elementary schools and implemented the 8-Step Process. With this integration Middletown Community Schools became an 8-Step Process district (Davenport & Anderson, 2002).

The 8-Step Process is based on eight steps that are expected to drive all instructional practices within the Middletown Community Schools.

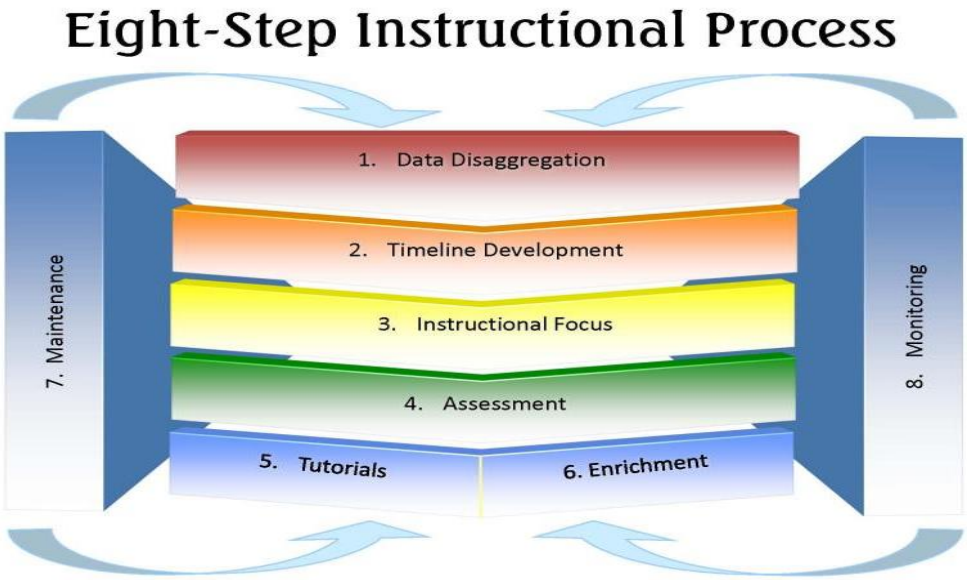


*Figure 3.* 8-Step Process Flow Chart (Peggy Hinckley - 8 Step Process, 2012)

**Data Disaggregation**

Data disaggregation is the process used to analyze student performance data to inform instruction. The process of learning how to analyze data takes time. Learning Log Meetings are scheduled to facilitate collaboration for teachers of the same grade level and subject matter, so they can meet to review the latest student data and develop a plan to address their students' deficiencies. This is also an opportunity to develop enrichment plans for those students who have demonstrated proficiency.

**Curriculum Timeline**

The curriculum timeline establishes a time-line for teaching the identified essential knowledge and skills. The curriculum timelines ensure that grade level subject area teachers are at similar points throughout the school year and cover the required standards. This is vital to a comprehensive and viable curriculum (Powell & Kusuma-Powell, 2012).

**Instructional Focus**

Instructional focus is the direct instruction to students with a focus on specific skills and standards.

It is important for students to know what they are supposed to be learning (Brookhart, 2012). As teachers prepare their lessons and establish the instructional focus they should focus on the following questions (Marzano, 2013, p. 81):

- What basic terms and facts do I assume that students already know, and what is my plan for students who don't know them?
- What basic relationships do I assume that students already know, and what is my plan for students who don't know them?
- What basic skills and processes do I assume that students already can execute, and what is my plan for students who can't execute them?
- What mental models do I assume that students already have, and what is my plan for students who don't have them?

Students enter the classroom with multiple experiences that are common to many, but not all and teachers who teach with these experiences provide an advantage to their students (Ball & Forzani, 2011; Fry & DeWit, 2011). Because of this, teachers must continually adjust their

lesson plans from year to year and even from class period to class period because they will never have the same dynamic in a class (Christenbury, 2011).

**Assessment**

Assessment is the process of using formative (standards based) and summative (comprehension based) assessments to measure the student mastery of standards.

**Tutorials/Remediation**

Tutorials/remediation is the method of providing time to re-teach those students who have not yet become proficient. It is important students see and understand their data so that they can focus on what needs to happen in order for them to achieve. Feedback needs to be actionable information that is specifically related to the data and the student (Wiggins, 2012; William, 2012). The tutorials/remediation efforts are based on the grouping of students for a three to four-week window of direct instruction based on the student's latest data collected from the benchmark assessments. It is important to note that these groups should change after every benchmark assessment so that students are not placed in a group for the school year (Tovani, 2010).

**Enrichment**

Enrichment opportunities are provided for students who are proficient on the assessments. Teachers must be cautious when using the students who master the material to help those who don't master the material because many times those students learn differently and therefore cannot help the other students (Rakow, 2012; Tomlinson & Javius, 2012; Brulles & Winebrenner, 2012; Noddings, 2014).

**Maintenance**

Maintenance is the process of providing on-going instruction to ensure students retain mastery of the standards. The process of teaching for mastery of the material is one that involves

more than recall. Students should be able to apply the knowledge that they have acquired. The maintenance portion of this process is important and involves continually reviewing previous standards.

**Monitoring**

The final step is monitoring and is the method used to check the progress of all students through learning log meetings, collaboration among staff, and focused leadership.

I selected Middletown Central High School for this study. I examined the role of the administrators in the process of implementing a data based decision-making process as the school improvement model. Based on the summaries that principals submit to the central office, I analyzed how principals are using data in their school, especially in instructional decisions. I explored teacher's relationship with the data and how they use the data. I analyzed their Learning Log Meeting agendas as well as interviewing their administrators after each Learning Log Meeting. I interviewed the principals three times throughout the school year. I also collected the Learning Log Meeting Agendas from four English teachers and four Algebra teachers and transcribed the Learning Log Meeting agendas to code them and look for reoccurring themes.

The information in Table 2 (Indiana Department of Education Compass, 2014) in part prompted me to want to study what was taking place in these buildings. I am not implying causality or that implementation of the 8-Step Process was the only change that occurred, but I saw an improvement in student achievement, based on test scores. These test scores affirmed to me that I should explore the interactions that were occurring in these schools. This high school received a grade of "F" in 2010, "C" in 2011, "B" in 2012, and "A" in 2013.

Table 2. *Five-year comparison of ISTEP passing rates*

| English Language Arts | 08-09 | 09-10 | 10-11 | 11-12 | 12-13 |
|---|---|---|---|---|---|
| Middletown Central High School | 59.9%* | 59.4% | 70.8% | 73.5% | 72.6% |
| Similar Schools | 62.9% | 50.7% | 59.8% | 66.2% | 64.2% |
| State Average | 70.2% | 63.5% | 70.7% | 77.0% | 75.0% |
| Math | 08-09 | 09-10 | 10-11 | 11-12 | 12-13 |
| Middletown Central High School | 55.6%* | 40.8% | 44.6% | 65.4% | 66.7% |
| Similar Schools | 58.1% | 42.6% | 53.8% | 50.2% | 62.0% |
| State Average | 67.6% | 62.0% | 71.6% | 69.4% | 68.8% |

* Indicates a different test that was given in the fall and beginning the 2009/2010 school year became the current ECA given in the spring.

(Indiana Department of Education Compass, 2014)

More detailed conclusions regarding the relationships of the use of data-driven decision-making and student academic success will be presented in Chapter 4.

**Data Collection**

I collected data from three different sources. First, I used semi-structured interviews to interview the two high school administrators. I transcribed these interviews and code the information contained in the transcribed interviews. The second source will be the Learning Log Meeting agendas, which are completed by each teacher, from the English 10 teachers. I transcribed the teachers'' Learning Log Meeting agendas, Appendix C, and then coded those transcriptions to find reoccurring themes among the teachers' responses. I repeated this process with the Learning Log Meeting agenda from the Algebra 1 teachers as my third source.

**Coding**

During the coding process, I utilized the matrix method as I interpreted the transcripts of the Learning Log Meetings as well as the administrative interviews. As noted by Edward Groenland, "The Matrix Method is a versatile method available for cross-sectional, qualitative data analysis, and is used most frequently, both in business and research and in commercial and

applied research." (Groenland, 2014, p. 4) I identified the reoccurring themes that emerged regarding the research questions.

During the coding process, I looked for the role that the administrator played in this process to see if there were similarities between the two administrators as well as reoccurring themes they experience throughout this process. I also looked for strengths and barriers to this process. From their perspective, what did the administrators view as strengths to this process and what were the barriers?

I also looked for reoccurring themes found in the transcripts of the teachers Learning Log Meeting agendas. I looked for the role the teachers play in this process as well as the strengths and barriers the teachers felt were present in this process. There are checks and balances within the Learning Log Meeting agendas that ensured that the information the teacher is providing during the meeting was actually taking place in the classroom. Questions 1 and 2 of the Learning Log Meeting Agenda, Appendix C, asked the teachers to provide evidence of the re-teaching strategies they used in the classroom to positively affect student achievement as well as an explanation of how they assessed their student's academic progress. Administrators also noted the strategies that were mentioned during the Learning Log Meetings and looked for the strategies when they performed classroom observations and walk-throughs. Principals were then asked to collect examples of these strategies and share the examples with other principals during the monthly principal meetings. The Learning Log meetings followed a set agenda, Appendix C, and reviewed past plans that were established for addressing student's deficiencies, the current data, and established a plan of action for the next several weeks. I reviewed the agendas that the teachers prepared and brought to the Learning Log meetings as well as the administrative notes from the Learning Log meetings. The teachers were required to bring their Learning Log

Meeting Agenda; Appendix C, to the meeting completed based on the most recent benchmark assessment data. The principal then projected the latest data on a screen for each teacher individually and then the teachers and principals discussed the student's performances on the assessment. The teacher then discussed concerns that they had with the data and celebrated the successes their students achieved during the assessment window. If there were standards that were particular challenging for all students, then the teachers and principals discussed and formulate strategies to address the deficiencies. If one teacher's students did not score well on a particular standard and the other teachers' students did, then that teacher shared the strategy they used with their students.

I also interviewed the two administrators at the beginning of the school year, after the first learning log meeting, and again after the second and third learning log meetings for a total of six interviews. During the interviews I used the interview questions in Appendix D, E, and F. I wanted to gain insight about the relationship between the administrator's role and understanding of the data and the teaching strategies that were being used in the classroom and the impact it had on process of using data to drive instruction.

The data-driven decision-making process in a school should become more impactful as learning log meetings result in the implementation of plans that are designed to address the needs of the students. I also looked for strengths and barriers to this process.

**Data Analysis**

I transcribed the administrative interviews as well as the learning log agendas that were submitted by the teachers. I coded the information from the transcripts and looked for reoccurring themes. As Bloomberge and Volpe stated "Qualitative data analysis is the process of bringing order, structure, and meaning to the masses of data collected. (Bloomberge & Volpe,

2016, p. 189) I then analyzed the data using a process of analytic induction (Miles & Huberman, 1984), allowing themes to emerge from the data rather than imposing a theoretical framework on the data. From these themes, I coded the data using grounded theory (Glaser and Strauss, 1967). This included the process of identifying the key elements from the data collected and the grouping of similar concepts.

I used NVivo as a tool to organize and sort the data I collect. Bloomberge and Volpe stated, "While computer assisted qualitative data analysis (CAQDAS) has become more prevalent over the last few years, you need to be aware that although various different types of software programs for qualitative research are available, the principles of the analytic process are the same whether one is doing it manually or with the assistance of software." (Bloomberge & Volpe, 2016, p. 205) I utilized the coding process twice. The first cycle coding was broad in nature looking for the categories that emerge and the second cycle coding focused on the themes that emerged and narrow the focus.

## POTENTIAL RISKS

There is a potential risk that I have identified in this study. At the time of this study, I was the Director of Secondary Education for Middletown Community Schools and I was the direct supervisor of the high school. While there was some potential for risk because of this, I do not believe that it had a significant impact the outcome of this study because I was previously involved in the process and regularly attended Learning Log meetings the school to ensure the validity of our data-driven school improvement process. I did not directly supervise the administrators or teachers, but I did interact with them on a regular basis because I was the Testing Coordinator for state mandated assessments. One of the expectations of the 8-Step Process was that teachers would be transparent with their student achievement information by

posting the assessment results on data walls so that all who had a vested interest in this information could review it. This culture enabled me to be a part of these meetings without causing a disruption to the process.

## SUMMARY

The purpose of this chapter was to clearly define the research methods and analysis system that I used in my study as I focused on data-driven instruction from the perspective of administrators and teachers. The data gathered from the interviews, observations, and review of assessment data provided perspectives on the implementation of the data-based process. I reviewed the collected data from this study in the next chapter.

# CHAPTER FOUR

# RESULTS

Chapter Four includes the discussion of my results. This chapter is organized with a review of my purpose statement, research questions, setting and methods. This chapter describes the setting of my research as well as the methods and sources that were utilized in the collection of the data.

## Purpose of the Study

The purpose of this qualitative study was to address my research questions regarding the role of the school administrator in the implementation of a data-driven decision school improvement plan. A qualitative study enabled me to explore the relationship of the principal's approach to data-driven instruction and to gain a deeper understanding of the data-driven process by discerning common themes among the participants. I was not looking for a relationship of correlation as would be found in quantitative research. I specifically studied the principals' relationship to the teachers, the teachers' relationships to each other, and the teachers' relationships with the students when they were using data to drive the instructional process. I also examined the expectations and processes that the principal established to ensure the appropriate use of data.

## Research Questions

The research questions that guided my study were:

1. In a district that is implementing a data based decision-making process as their school improvement model, what is the role of the school administrator?
2. What are the strengths as well as the barriers and concerns in the implementation of this process?

**Setting**

My research took place in a traditional $9^{th}$ – $12^{th}$ grade urban high school and focused on Algebra 1 and English 10 teachers and students. Two of the study participants were administrators, one who was responsible for Algebra 1 and another who was responsible for English 10. Data collection consisted of three different interviews with each administrator which took place after three different benchmark assessments. The interview questions are listed in Appendices D – F. I reviewed the notes from learning log meetings, which were submitted on the Learning Log Meeting Agenda (see Appendix C). The learning log meetings were held after each benchmark assessment and during these meetings the teachers reviewed their student data with the other teachers and the administrator. They then created a plan to address the needs of each student.

**Methods**

I coded three interviews from the two administrators who were a part of this study for a total of six interviews. I also coded three learning log meeting agenda notes from eight teachers for a total of 24 learning log meeting agendas. The NVivo software assisted me in coding the information. I completed both first and second cycle of coding (Saldana, 2009) to analyze the data that I had collected and to identify the trends that emerged from the data. Figures 4 – 6 present the codes derived from the first and second cycle coding processes. For both coding cycles, I am only going to discuss the dominant themes that evolved. Please see the matrix Figures 1, 2, and 3. It is helpful to get a grasp of all the codes and those that rose to dominance.

**First Cycle Coding**

Figure 4 highlights the codes that occurred that emerged as most dominate. The numbers included in Figure 1 represent these units of analysis: 1). a paragraph from a transcript of an interview with an associate principal, or 2). a response to a Learning Log Agenda form that was

completed by a teacher. The darker the color in the Figure 4, the more dominant the code was during interviews and learning log meetings. The first coding cycle was broad, and five codes emerged. These codes for teachers, from the Learning Log Agenda forms, included: *Data, Monitoring, Teaching Practices, Daily Routine*, *Student Challenges,* and *Student Successes*. The major codes for the administrators were: *Teaching Practices, Data, Monitoring, Teacher Buy In,* and *Common Tool*. It is important to note the top three for both groups included *Data, Monitoring*, and *Teaching Practices*. The numbers included in figure 4, 5, and 6 represent the units of reference for each of these codes.

Figure 4
First cycle coding results

| | Associate Principal | Teacher | Positive Tone | Negative Tone |
|---|---|---|---|---|
| 1 : Comfort Level | 36 | 2 | 35 | 2 |
| 2 : Common tool | 42 | 17 | 39 | 3 |
| 3 : Daily routine | 28 | 47 | 27 | 2 |
| 4 : Data | 59 | 134 | 58 | 6 |
| 5 : Monitoring | 55 | 129 | 53 | 7 |
| 6 : PD | 39 | 13 | 36 | 4 |
| 7 : Student Challenges | 0 | 44 | 0 | 0 |
| 8 : Student deficiencies | 22 | 16 | 21 | 0 |
| 9 : Student Successes | 0 | 44 | 1 | 0 |
| 10 : Teacher buy in | 46 | 2 | 43 | 5 |
| 11 : Teacher concerns | 9 | 4 | 8 | 3 |
| 12 : Teaching Practices | 60 | 100 | 56 | 4 |

Note. The darker areas occurred with the most frequency.

I then coded the information gathered from the teachers and administrators again using the top three codes among teachers and administrators, which were *data, monitoring,* and *Teaching practices.* I also included *Daily Routine,* which was a major theme mentioned by the

teachers and *Common Tool*, which was a major theme mentioned by the administrators. Figure 5 highlights the codes that occurred with the most dominance. Again, the darker the color, the more dominant the code was during interview and learning log meetings. There are many similarities in the exemplars of these two codes. The codes are darker for the teachers, because there were 24 opportunities for mention compared to the administrators who had a total of six opportunities for mention.

Figure 5
First cycle coding most frequently used codes

| | Associate Principal | Teacher | Positive Tone | Negative Tone |
|---|---|---|---|---|
| 1: Data | 59 | 134 | 58 | 6 |
| 2: Monitoring | 59 | 134 | 58 | 6 |
| 3: Teaching Practices | 55 | 129 | 53 | 7 |
| 4: Daily routine | 28 | 47 | 27 | 2 |
| 5: Common tool | 42 | 17 | 39 | 3 |
| | | | | |

Note. This table is a compilation of the most common codes from Figure 4.

**Data.** The code "*data*" was given to all statements that referred to looking at student data, teacher data, and assessment data, both formal and informal. As I reviewed the interview transcripts and notes from the learning log meetings, I found that *data* was mentioned more than any other code in my first cycle coding cycle. One administrator spoke of the process of using data in the classroom and the importance of his role in supporting the process as well as adjusting student schedules as well as adult schedules to make sure data was utilized in the classroom.

> Success which is part of the 8-step process has been a huge thing for us and has given us an opportunity to remediate those kids who need remediation as well as enrich those kids who need enrichment. It depends where the students are. We look at that data to help give us an idea as to where to send the students. So, we have built in to our schedule Success time that we do every day except for Wednesday. The groups are again established based on the data and are monitored and adjusted as needed. Those kids can move groups depending on how they do again based on the benchmark assessments. They may move up, or they may move down.

**Monitoring.** The code "*monitoring*" was the second most used code in the first cycle coding. As I studied the role of the administrators in implementing a data-based decision-making process as their school improvement model, monitoring was repeated as a necessary step in the implementation process. Information was coded as *monitoring* if it revolved around being in classrooms during walkthroughs, observations, reviewing student data before and during leaning log meetings, recording and understanding the planned interventions that teachers were going to use as remediation and re-teaching strategies and the reviewing of lesson plans and formal and informal assessments. When one administrator was asked what evidence, he had that the teachers were using data in the classroom, he responded in this way:

> We do walk-throughs, practically every day and part of the walk-through, with the English 10 teachers, I will make notes regarding what they talked about in their last LEARNING LOG MEETING. I will see if I see the strategy that was discussed and if I don't, I will go to them and check into it further, so we can make sure they are incorporating the strategy.

"What gets monitored is what gets done" (DuFour, DuFour, Eaker, & Many, 2006, p. 20) and that philosophy is continually found throughout the codes relating to monitoring. Administrators play the most active role in monitoring; in turn it has helped them be more aware of what is happening in the classroom.

**Teaching practices.** I coded teaching practices based on information that related to teaching strategies and practices that were utilized by teachers as they worked to improve student academic achievement. A key component of the data-driven decision-making process is the way that teachers collaborate to come up with the best way to reach students. An English teacher indicated that she assessed student progress informally through class discussion and formally by utilizing the bell ringers that were developed in conjunction with the other English teachers:

> I primarily used classroom discussion and bell ringers. A lot of bell ringers for my tenth graders are writing about a piece that we read in class and determining how well they comprehended the piece as well as drew the inferences that were expected of them. After they've finished their bell ringers, I always take volunteers to share. Those volunteers, after they've shared, are asked guiding questions to steer them towards an even more specific, supported answer.

The importance of collaboration on teaching strategies was repeated throughout my research. Teaching can be a very lonely profession and it takes intentional work to interact with other teachers by sharing data and teaching practices. Getting to the point where teachers are comfortable sharing their data with other teachers and then developing plans for impacting their student's academic achievement is challenging for many educators. This process takes time and relationship building is a necessity. Teachers must be comfortable with their own data as well as their own skill set to realize that, there may be a better way to reach my students. Additionally, a

teacher recognizes that it is ok if I am not the one who knows what that is. An administrator mentioned that getting to the point where the teachers trusted that looking at student data wasn't evaluative, was a first step in implementing a data-driven decision-making model as a school improvement model.

**Daily routine.** Another key part of implementing this data-driven process was impacting the daily routine of the teachers. This was true in the classroom, but also in the daily student schedule by including success period daily. The strategies and success period were both mentioned by one teacher who recaps the re-teaching strategies that were used for remediation.

> Bell ringers are still happening using spiral review. The homework in the current chapter we are on has spiral review questions at the end of each assignment. So, these standards are not going away. I notice a lot more participation/confidence on these types of problems. The success class time has been utilized as well with the worksheets that the success team has provided.

The challenge of creating time for teacher collaboration as well as time in the student schedule for success time are noted because without time designated for both, this process did not seem to work effectively as stated by the teachers and administrators.

**Common language.** The use of a common tool, or common language plays an important process in the implementation of this data-driven decision-making process. It was mentioned repeatedly that having a common process is crucial for bringing people together. One administrator said:

> The 8-Step Process provided the avenue for this - the learning log meetings that we have, we have to sit down and we look at everyone's data and everyone has their data in front of them but then we talked about as a class - I should say as a department, algebra I,

> English 10 whatever it may be - and we look at our data and we look for deficiencies. When we first started it, folks were a little uneasy about having data on the table from you know comparing apples to apples with other teachers. Now that's just not the case. You look at what standards of the weakest according to the benchmark assessment that we take and then redirect re-teaching. We don't stop everything and just focus on those, we move ahead and then spiraled back with re-teaching whether it is in success or bell ringers or in some sort of kind of common assessment that we are doing. We spiral back to have re-teaching opportunities.

**Second Cycle Coding**

The second cycle coding centered on the three main areas *Administrative Leadership, Teacher Leadership,* and *Data.* Figure 4 highlights the frequencies. The codes are darker for the teachers, because there were 24 opportunities for mention compared to the administrators which had a total of six opportunities for mention. The administrator's information was coded with *Data* being the most frequent followed by *Administrative Leadership* and then *Teacher Leadership.* The teacher's information was coded with *Teacher Leadership* being the most frequent, followed very closely by *Data* and then *Administrative Leadership*. Both the administrators and teachers indicated leadership for themselves was important but did not indicate leadership for the other group was as important. A review of the Learning Log Agendas (Appendix C) and the Interview Questions for the administrators (Appendix D – F) indicates there was little inquiry into the leadership of the other group.

Figure 6
Second cycle coding most frequently used codes

Figure 6

| | Administrator | Teacher | Positive | Challenges |
|---|---|---|---|---|
| 1: Administrative Leadership | 42 | 2 | 16 | 0 |
| 2: Teacher Leadership | 5 | 79 | 3 | 2 |
| 3: Data | 55 | 73 | 27 | 20 |

Note. When looking at the numbers it is important to realize there are 8 teachers represented in this figure and two administrators.

**Administrative leadership.** The code Administrative Leadership was applied to any information that reflected on the administrator's role as a leader in the data-driven decision-making process. As I interviewed one administrator, he indicated that his role had changed significantly and after implementing this process he understood the data and what teaching strategies to look for when he was in the classrooms. He also understood what kind of achievement data he should expect from teachers.

> I have a more vested knowledge of what the teachers are doing because you are in so many of their meetings and you are in their classrooms so much more. And when you walk in their classrooms, you see them using the instructional strategies being used and you see how the kids are doing. Before I wouldn't know what, they were doing. Before Learning Log Meeting's, I didn't know what instructional strategies to look for, what kind of achievement data to expect. I expect to see growth on the next assessment because of the common instructional strategies that are being used. The information that you gather from those sit-down situations in the Learning Log Meeting's is critical.

From the perspectives of the two administrators in the study, they believed that the role of an administrator in the implementing a school improvement model that is based on data-driven instruction is to be an educational leader. Administrators must understand the achievement data, know how to interpret it, understand the teaching strategies that will be implemented to address the needs of the students. Administrators must also monitor the implementation of teaching strategies, the type of assessments used to gather information, and the overall growth of the students. The administrators must also work to make sure the student's schedules as well as the teacher's schedules are such that the needs of both groups are addressed, and priorities are placed in the appropriate areas.

**Teacher leadership.** Teacher leadership was coded when teachers indicated what they needed to implement a data-driven decision process. Teachers identified the need for time to work together as they review the data and plan re-teaching strategies to be utilized across their department as well as the challenge for making it better. One teacher was asked about the importance of supporting each other and this is what they had to say:

> Getting together to share strategies, particularly in the PLC format has been so helpful to me so far this year. Being able to carve out time for this and figuring out what strategy works with what students is something that I could see happening more often and being beneficial.

The teachers are providing leadership in these areas and initiate the process of developing the appropriate approach to student academic improvement, but they could use more time to develop these strategies and increase the effectiveness of the strategies that are utilized.

**Data.** Data were coded as such anytime any type of data was mentioned. This could be data from informal or formal assessments, but it could also be from attendance or discipline

records, or other data points. The use of data and the impact these had on classroom instruction is explained by an administrator:

> I think this has changed the landscape of education for us. Data has given teachers an understanding of our how their instruction is relayed to students. It has given them the opportunity to really reflect on their teaching. If a student or students collectively are understanding the information that is given to them. So, they are beginning to own this, and they are very comfortable with looking at the data and owning it. So, I think as we move forward, as I am in classrooms I can see this. For instance, in one of English classrooms where there were some concepts that were not quite understood according to the benchmark and the teacher went back and taught it a little differently, she modified it and by doing so she was trying to help those kids who did not perform so well on the benchmark and after this she gave them a different assessment and they had experienced growth. So now teachers, more so now than in the past, link this and take the data they have and how do I use it in my classroom so that it drives the instruction that they are giving every day.

This has changed from, "I taught it and they didn't get it" to "if they didn't get it, did I really teach it?" Teachers now look at data and then decide what they can do to better relay that information to the students.

**Findings Related to the Research Questions**

This section will specifically answer the research questions of the study.

1. In a district that is implementing a data based decision-making process as their school improvement model, what is the role of the school administrator?

Major themes evolved about the implementation of a data decision-making process. Educational leadership among administrators and teachers and the collection and use of data were two reoccurring themes from the coding process. It's clear that they view these as very important to a successful implementation of a data-driven decision-making school improvement plan. An administrator noted how his role as an administrator has changed because of this process and now he is much more active in the teacher's classrooms and in the data disaggregation process.

> I make it a point to get in their classrooms more than just walkthroughs and then I spend a little more time in their classrooms when I do walkthroughs and our data coach and department chair is working with those folks as well trying to help them out and disaggregate data and volunteering to come in their room.

Teachers also indicated that their roles have changed, and they have taken a much more active role in educational leadership. The teachers really began to take ownership of their data and that impacted their teaching practices. The teachers originally struggled with sharing their information with each other, but once they got past that and began to utilize each other as a resource, they made great strides in utilizing the data and sharing their efforts and strategies with each other. One teacher indicated leadership among teachers was essential to the process:

> Getting together to share strategies, particularly in the PLC format has been so helpful to me so far this year. Being able to carve out time for this and figuring out what strategy works with what students is something that I could see happening more often and being beneficial.

Another major finding that was mentioned by both groups was the importance of data and the role data have in the process. Both the administrators and teachers described formal and informal data from many different sources as the key in deciding what should

be taught in the classroom and when it should be taught. The establishment of curriculum maps, a common assessment schedule, and common assessments have greatly impacted the instructional practices and given teachers a common language with which to work and support each other. An algebra teacher said he uses data to assess student's progress in the following manner.

> I provide immediate feedback on the white board work, grading and correcting the core 40 quizzes, and realignment of the homework based on the before mentioned items. When they are doing their classwork the assignments we are always circling back to the linear equations.

One administrator indicated that his staff members have seen a direct correlation between the data and what takes place in the classroom:

> With the bell ringers they have the common thread that runs through the math department and they are the same in every classroom. We do have some folks are little behind on the curriculum map and new people to the building but we are trying to get those guys caught up but the common thread is the bell ringers. A lot of the kids have similar issues, and then you go to the classrooms and see the activities that we talked about in the learning log meetings. It may be a manipulative activity where they're doing it with inequalities or whatever. You can see those in each of the algebra classes and they really do a great job of sharing and you can see that the folks are getting it, and you can see that in their classroom.

Another important thing to note regarding the use of data is the process involved in interpreting data for both groups. The interpretation of data is an acquired skill and

intentional professional development was utilized with the administrators and the teachers, so they have the ability to interpret the data and formulate plans to address the student's needs. An administrator notes how they work with new teachers as they come in to the school to help them with data disaggregation and then how to utilize the information in their classrooms:

> There are certain maps or graphic organizers, whatever you are looking at and there is a certain skill set that goes with reading those items. We have been trained as administrators enough on how to look at data and we have been doing this now for three years and it has given all of us an opportunity to review the data and the good thing now is that we get the data immediately, and so we are able to go into the program and look at that data and then work with the teachers. If a teacher doesn't understand it, we will work through that in our learning log meetings to make sure they understand and most of them get it right away. It's not rocket science but if they have questions on how to interpret the data we will talk about it and walk them through that whole situation. We have a Learning Log Meeting agenda that the whole school uses as a matter of fact, all of our secondary schools in the district use the same form, and it takes the teachers through the process of understanding the data they are looking at. It goes through a series of questions that helps them understand, why this student not did well, and it gives them an understanding of what is going on, rather than be that they did not convey the information and instruction in the way it needed to be, or they did do that. So, as we go through those questions, it helps them understand, ok this is what I am

looking at, this standard, this particular strategy, why did Johnny get it but Suzie didn't, it's looking at those types of things. So, we really have rich conversations.

The principal's relationship to the teachers was one of active participation by understanding what was happening in their classrooms and facilitating the needs of the teachers and supporting them in their endeavors to use data to drive classroom instruction. The teacher's relationship to each other was one of support and collaboration. The teachers valued time to work together and support each other with conversations based on effective teaching strategies. The teacher's relationship with data and the students is one of immediate impact on current and future lessons. The administrator's relationship with data and teachers was one of providing professional development in the use of data to drive instruction, but also in the area of monitoring the implementation of the process.

2. What are the strengths as well as the barriers and concerns in the implementation of this process?

**Strengths**

Educational leadership among administrators and teachers was recognized during the coding process. Both groups felt as though this process enabled them to be more active and intentional and empowered them to be active leaders. One teacher gave an example of how teachers were leading:

> Some of the veteran teachers are better at helping the new folks or having more tact when helping the new teachers. You can see a difference. Two teachers are teamed up and teaching the class and the lab and they are paired up and it is a veteran and a new teacher, and they are working great together. The other gal that is new to the profession has paired

up with a veteran because they share rooms and they happen to have a similar schedule. The data coach really facilitates the process.

The administrators concurred with this and felt as though one of their responsibilities was to make sure that they paired teachers appropriately to facilitate this change in practice:

> We have a couple of teachers who are new to the teaching field and they ask a lot of questions and we have veteran teachers who work with them all the time. I actually went through the Learning Log Meeting agenda before they received their first set of data, so that they would understand exactly what the questions were asking and how they needed to approach the Learning Log Meeting. They are in constant communication with our veteran teachers. This takes place in the PLC setting or during their prep period.

Another strength is the use of data to immediately impact instruction. The practice of making decisions based on data rather than what is next in the book, or the plan that has been in place for years has changed dramatically. One administrator indicated:

> We constantly look at the data we receive and in the learning logs there is a place that we talk specifically about certain groups of kids even down to individual kids. So, there is constant conversation and we try to tailor the classes around the needs of the students.

This includes both formal and informal data that is collected by the teachers. This enables them to make informed decisions as to how they can meet the needs of each of their students.

Common practices in classrooms was also mentioned as a strength by administrators and teachers. A teacher indicated that the common practices, in her class as well as during Success Time, have aided in the growth of her students in class:

> Bell ringers are still happening using spiral review. The homework in the current chapter we are on has spiral review questions at the end of each assignment. So, these

> standards are not going away. I notice a lot more participation/confidence on these types of problems. The success class time has been utilized as well with the worksheets that the success team has provided.

Administrators indicated that as they visited classrooms they can see the common practices that have been discussed in the Learning Log Meeting's.

> The re-teaching strategies, the instructional strategies that are used in the classroom are the key. They use that data to see where the kids are weak and are struggling and you will see that in Success. And then they use common bell ringers and common strategies to address the needs.

Monitoring was also noted as a strength of this process. The teachers and administrators both indicated monitoring as one of the most frequently noted themes in the cycle one coding process. One administrator mentioned this process has helped him be much more intentional in the classrooms:

> I make it a point to get in their classrooms more than just walkthroughs and then I spend a little more time in their classrooms when I do walkthroughs and our data coach and department chair is working with those folks as well trying to help them out and disaggregate data and volunteering to come in their room.

## Weaknesses

Monitoring was listed as a strength but is was also listed as a concern especially at the beginning of this process. As one administrator notes, at the beginning of the process, teachers were more likely to make excuses for the lack of academic progress being made by their students:

> In the beginning it was not uncommon for teachers to start by saying that we had our learning log meeting just a couple weeks ago or they would talk about students' attendance and it was important to listen to them and not just brush those comments off because it does affect the data. But more importantly, we need to look at how they are achieving and that is the bottom line. I'm anxious to see these new folks come on board. We are eliminating some of the road blocks that they are talking about.

The collection, interpretation, and use of data by teachers is a learning process. When there are new teachers, this can present a challenge to the process. One administrator indicated the steps that were taken to try and assist new teachers as they became more familiar with the process:

> We have a couple of teachers who are new to the teaching field and they ask a lot of questions and we have a couple of veteran teachers who work with them all the time. I actually went through the Learning Log Meeting agenda with them before they received their first set of data, so that they would understand exactly what the questions were asking and how they needed to approach the Learning Log Meeting. They are also in constant communication with our veteran teachers. This takes place in the PLC setting or during their prep period.

Time for collaboration was another challenge that was mentioned throughout the coding process. Teachers and administrators both indicated that time to collaborate between teachers was a critical part to this process and there needed to be a priority placed on providing the time that was needed.

> We need more time with the data to analyze the data so that we can give adequate thought to remediation and enrichment activities.

Creating time in teacher's schedules can be a challenge, but it is seen as a valuable part of implementing a data-driven decision-making process.

**Summary**

Chapter Four described the major themes that emerged in the study with exemplars. These themes were used to answer the research questions. The next chapter will discuss the conclusions and implications of this research.

# CHAPTER FIVE

# CONCLUSIONS

Chapter Five includes a summary of the study and important conclusions drawn from the data presented in Chapter Four. This chapter will provide a discussion of the implications for action as well as recommendations for further research.

Today there is continued efforts to measure the effectiveness of schools and educators based on high stakes standardized tests. Because of this, educators are continually trying to figure out the best way to prepare students for these tests. While many educators do not feel these tests are an accurate depiction of their students' academic achievement, they do understand the correlation between their students' performance on these assessments and school funding, flexibility in curriculum, and state sanctions. As educators continue to search for effective ways to prepare their students, the interpretation and use of data has become an essential part of the educational process.

School accountability is not a new idea in education. The battle between standards and the customization of curriculum have been debated for many years. The No Child Left Behind Act of 2001 (NCLB) is thought by many to be the beginning of school accountability. While it is true that NCLB refocused the nation's attention on accountability, educational accountability began in the nineteenth century when schools tested their students for mastery and those who did not pass where retained (Ravitch, 2002). Teachers were also required to pass a test of their knowledge. In 1900 students who applied to enter Harvard, Princeton, and Yale were required to pass specific admission exams. During the 1930s and 1940's, Progressivism supported student testing to place education on a scientific plan. This was also the time when social promotion began to gain ground in part to keep young people in school and out of the job market (Ravitch,

2002). In 1965 the Elementary and Secondary Education Act required schools that received Title 1 funds to make Adequate Yearly Progress (AYP) in their test scores.

In 1966 a report entitled *Equality of Educational Opportunity*, also known as the Coleman Report, compared the redistribution of resources and opportunities among children of different races as well as the achievement scores or outcomes (Coleman et al., 1966). This report shifted the focus from inputs to results (Ravitch, 2002). In 1983, *The Imperative for Educational Reform* report was prepared for President Reagan by the National Commission on Excellence in Education (NCEE) and identified pervasive academic underachievement and declining test scores in the United States. The report ushered in the era of standards and accountability in public K-12 education (Hiller, Tommaso, & Plucker, 2012,). NCLB had a goal that 100% of all K-12 students would be performing at grade level in both math and reading by the year 2014. This goal has been the driving force behind school accountability at the national level. Prior to NCLB, the goals of the Elementary and Secondary Education Act (ESEA) were to provide equal access to education, establish high standards and accountability, and close the achievement gaps. While these are good and admirable goals, NCLB established clear goals of all children performing at grade level.

Individual states also have accountability measures. The state of Indiana, which is the state where the data is being collected for this study, first responded to the calls for educational reform from Governor Robert D. Orr and State School Superintendent H. Dean Evans in the year of 1987 with the "A+ Program". The A+ Program created a performance-based system of accreditation and awards, added five days to the school year, established the Indiana Principal Leadership Academy, and implemented the Indiana Statewide Testing for Educational Progress (ISTEP) program (Hiller et al., 2012).

During the next 12 years there was much debate about the effectiveness of the educational system of accountability. In 1999, the Indiana General Assembly enacted the next round of educational accountability reform. Indiana PL 146 and Indiana PL 221 were passed at the same time and were intended to complement each other. PL 146 called for the Indiana Department of Education (IDOE) to adopt academic standards for every grade level from kindergarten through Grade 12 for English, mathematics, social studies, and science that should be based in part, on the results of ISTEP+ testing. PL 221 created a performance-based system of accreditation and accountability, financial incentives for high-performing schools called Student Educational Achievement Grants, funding for professional development, and annual performance reporting. PL 221 also adapted three-year school improvement plans, to be revised annually, as a core component of the new accountability system. These elements and their framework form the bulk of this legislation (Hiller et al., 2012).

The earlier established PL 221 had differing accountability measurements than NCLB. NCLB categorized student performance by Annual Yearly Progress (AYP) and PL 221 categorized student performance in one of five different categories. Therefore, the IDOE had to equate AYP with their measurement scale in some manner so if a school or district failed to meet AYP for two consecutive years, schools or districts could not be categorized any higher than "Academic Progress" regardless of their students' performance and state categorization.

The IDOE began to implement changes to school accountability and performance measures as well as the classifications for school performance in January of 2011. The elementary and middle school models base the schools' grades on students' performance in English/Language Arts (ELA) and Math. The high school model is based on End of Course

Assessment (ECA) scores in Algebra I and English 10, as well as attendance rates, graduation rates, and college and career readiness.

Currently school reform is based on student academic achievement data and this means educators must learn how to best use the data that is available to drive instruction in the classroom daily "Educators need to gain data literacy skills to inform practice. Although some professional development opportunities exist for current educators, fewer formal courses and opportunities for data literacy development in schools of education have been developed and implemented" (Mandinach & Gummer, 2013, p. 30). This is a change from just having data to now using the data daily to drive instruction (Davenport & Anderson, 2002).

**Purpose of the Study**

The purpose of this qualitative study was to address my research questions regarding the role of the school administrator in the implementation of a data-driven decision school improvement plan. A qualitative study enabled me to explore the relationship of the principal's approach to data-driven instruction and to gain a deeper understanding of the data-driven process by discerning common themes among the participants. I was not looking for a relationship of correlation as would be found in quantitative research. I specifically studied the principals' relationship to the teachers, the teachers' relationships to each other, and the teachers' relationships with the students when they were using data to drive the instructional process. I also examined the expectations and processes that the principal established to ensure the appropriate use of data.

## Research Questions

The research questions that guided my study were:

1. In a district that is implementing a data based decision-making process as their school improvement model, what is the role of the school administrator?

2. What are the strengths as well as the barriers and concerns in the implementation of this process?

## Review of the Research Methods

I used qualitative research methods for my study. The setting was a traditional 9th – 12th grade urban high school and focused on algebra 1 and English 10 teachers and students. Two of the study participants were administrators, who were responsible for the professional development of the teachers regarding data, facilitating the learning log meetings, developing the action plans to address the needs of the students, and monitoring the classrooms. One who was responsible for algebra 1 and the other was responsible for English 10. Data collection consisted of three different interviews with each administrator which took place after three different benchmark assessments. The interview questions are listed in Appendices D – F. I analyzed the notes from learning log meetings, which were submitted on the Learning Log Meeting Agenda (see Appendix C). During these learning log meetings, which were held after each benchmark assessment, teachers reviewed their student data with other teachers and the administrator. They then created a plan to address the needs of each student. My data analysis included the learning log meeting agendas of four teachers in algebra I and four teachers in English 10.

I coded three interviews from the two administrators who were a part of this study for a total of six interviews. I also coded three learning log meeting agenda notes from eight teachers for a total of 24 learning log meeting agendas. The NVivo software assisted me in coding the

information. I completed both first and second cycle of coding to gain a better understanding of the data that I had collected and to develop the trends that were evident in the data. Figures 1 – 3 present the codes derived from the first and second cycle coding processes. For both coding cycles, I am only going to discuss the major themes that evolved.

**Summation of Major Findings and Findings Related to Literature Review**

**Research question 1. In a district that is implementing a data based decision-making process as their school improvement model, what is the role of the school administrator?** Major themes evolved about the implementation of a data decision-making process, educational leadership among administrators and teachers, and the collection and use of data. The study participants viewed these themes as very important to a successful implementation of a data-driven decision-making school improvement plan. An administrator noted how his role as an administrator has changed as a result of this process and now he is much more active in teachers' classrooms and in the data disaggregation process. This is supported by my literature review. Schools that had leaders who were supportive and enthusiastic about the use of data and established a clear vision and expectations for the use of data had much more buy in from their teachers (Schildkamp & Kuiper, 2010)

Teachers also indicated that their roles have changed, and they have taken a much more active role in educational leadership. The teachers really began to take ownership of their data and that impacted their teaching practices. The teachers originally struggled with sharing their information with each other, but once they got past that and began to utilize each other as a resource, they made great strides in utilizing the data and sharing their efforts and strategies with each other. This conclusion is supported by Schildkamp and Kuiper (2010, p. #7) "Data can help teachers to monitor their constantly changing environment, their functioning and to what extent

curriculum aims are met and react timely and, in an evidence-based manner when problems need to be solved" (Schildkamp & Kuiper, 2010).

Another major finding that was mentioned by both groups was the importance of data and the role data have in the process. Both the administrators and teachers described formal and informal data from many different sources as the key in deciding what should be taught in the classroom and when it should be taught. The establishment of curriculum maps, a common assessment schedule, and common assessments have greatly impacted the instructional practices and given teachers a common language with which to work and support each other. Mandinach suggested student data needs to be made available in a timely and accurate manner. Triangulation of data is suggested, and it is important for teachers to view the data in light of what they see on a daily basis in the classroom (Davenport & Anderson, 2002; Goren, 2012).

Another important aspect to note regarding the use of data is the process involved in interpreting data for both groups. The interpretation of data is an acquired skill and intentional professional development was utilized with the administrators and the teachers, so they can interpret the data and formulate plans to address students' needs. The use of data to drive instruction is data literacy. "Data literacy is the ability to understand and use data effectively to inform decisions. It is a composed skill set and knowledge base that enables educators to transform data into information and ultimately into actionable knowledge" (Mandinach & Gummer, 2013, p. 30).

Each principal's relationship to the teachers was one of active participation by understanding what was happening in teachers' classrooms, facilitating the needs of the teachers, and supporting them in their endeavors to use data to drive classroom

instruction. The teachers' relationships to each other illustrated support and collaboration. The teachers valued time to work together and support each other with conversations based on effective teaching strategies. The teachers' relationship with data and the students fostered immediate impact on current and future lessons. The administrators' relationships with data and teachers provided professional development in the use of data to drive instruction, but also in monitoring the implementation of the process. In the literature review, Saunders and Strasser supported this finding. Teacher empowerment is not simply allowing teachers to teach whatever they want, when they want, but rather there must be a spirit of collaboration from district administrators, building administrators, and teachers (Saunders et al., 2009; Strasser, 2014).

**Research Question 2. What are the strengths as well as the barriers and concerns in the implementation of this process?** Strengths included educational leadership among administrators and teachers. Both groups felt as though this process enabled them to be more intentional and empowered them to be active leaders. DuFour and Mattos supported this finding when they asserted, "The most powerful strategy for improving both teaching and learning however, is not by micromanaging instruction but by creating the collaborative culture and collective responsibility of a professional learning community" (DuFour & Mattos, 2013, p. 37).

Another strength is the use of data to immediately impact instruction. The practice of making decisions, based on data rather than what is next in the book or the plan that has been in place for years, has changed dramatically. This includes both formal and informal data that are collected by the teachers. Data enables them to make informed decisions as to how they can meet the needs of each of their students. The

literature review supported this finding; this is a change from just having data to now using the data daily to drive instruction (Davenport & Anderson, 2002). As Jensen (2013) suggested, teachers and schools are the primary factor in student achievement. Teachers have a significant impact on student learning and the ability to use the data in the classroom increases their impact on student learning.

Common practices in classrooms was also mentioned as a strength by administrators and teachers. Administrators indicated that as they visited classrooms they can see the common practices that have been discussed in the Learning Log Meeting's. Teachers also indicated they see a great benefit from being able to use the assessment data gathered from common assessments, so they can collaborate and develop a plan to address the needs of their students. This is supported by the Literature Review. "For assessment data to be useful for instructional planning they need to be current, accurate and in the hands of knowledgeable decision makers at the appropriate levels" (Mandinach et al., 2009, p. 3).

Monitoring was also noted as a strength of this process. The teachers and administrators both indicated monitoring as one of the most frequently noted themes in the cycle one coding process. Monitoring is a key component of using student data to drive instruction and it is also a key to making these essential changes. This finding was supported by DuFour, DuFour, Eaker, & Many (2006) when they famously proclaimed, "What gets monitored is what gets done" (p. 20).

Weaknesses of the model researched included monitoring and time for collaboration. Monitoring was listed as a strength but was also listed as a concern especially at the beginning of this process. As one administrator notes, at the beginning of the process, teachers were more likely to make excuses for the lack of academic progress being made by their students, but as the

teachers become more comfortable with the process, the impact on student achievement increased. Research has indicated that when teachers are provided with consistent meeting times, instructional leadership, and explicit protocols for meetings there are significant gains in academic achievement (Saunders, Goldernburg, & Gallimore, 2009; Little, 2012).

Time for collaboration was another challenge that was mentioned throughout the coding process. Teachers and administrators both indicated that time to collaborate among teachers was a critical part to this process and there needed to be a priority placed on providing the time that was needed. DuFour, Mattos, and Barnett all supported this finding in the literature review. The key is finding a way to ensure that all teachers are teaching more effectively, more frequently (DuFour & Mattos, 2013; Barnett, 2011).

**Limitations**

Only one educational level, a high school, was a part of the research. However, this study was conducted at a school with 1,800 students and included two administrators and four English 10 teachers and four Algebra 1 teachers. For a qualitative study those two departments were well represented.

At the time the research was performed, and the data was collected, I supervised the secondary schools of this district. While I did not directly evaluate these administrators or teachers, I was responsible for their school and their student achievement. There were less weaknesses and barriers identified and perhaps the teachers and administrators would have been more explicit if an external person had done the research.

**Implications for Action**

The findings of this study indicate that using data to make decisions in the classroom is beneficial to student achievement, but it is more than just collecting data. Administrators and teachers must be provided with professional development in data disaggregation as well as the interpretation of data. The art of analyzing and interpreting data is an acquired skill. There must be an intentional plan to provide training for the original group of teachers and administrators, but also for new teachers and administrators as they come into the school setting. Administrators must not only be proficient in analyzing the data, they must also be committed to providing time for collaboration and professional development for the teachers. As the teachers become proficient in interpreting and analyzing the data, there is a direct and immediate impact on their current and future instructional practices and plans. As the administrators grow in interpreting and analyzing data, so will their practice of monitoring the teachers' practices within their classrooms and the administrators will be able to identify the practices that are addressing the students' needs.

Educational leadership among both administrators and teachers was supported because of the implementation of a data-driven school improvement process. Both administrators and teachers felt empowered to be more intentional in their approach to student achievement and they were able to be intentional when addressing student needs. Too often in education, teachers are told to adapt to the learning style or needs of their students; yet, they are not given the tools or means by which to make changes. A data-driven process provides them with the understanding of what they need to change and how to meet the needs of their students. Administrators were empowered to more fully understand what teachers were doing in their classrooms and how the teachers were addressing the needs of the students. The teachers were also able to support each

other because of the common tools and practices they were utilizing to meet their students' needs and they were able to effectively collaborate.

It is also important that clear expectations are established and monitored throughout the process. Administrators must also provide common tools and mechanisms for data collection, collaboration, and instructional practices. Throughout this process the ability for teachers to work together and develop common assessments, common classroom protocols, and common teaching strategies were all identified as a strength of the process. This also permitted the administrators to more effectively monitor student achievement as well as teacher strategies and classroom practices. This provided a more focused approach to student needs and academic achievement. It also provided a collaborative culture among the teachers and administrators, which was a culture that was "us" rather than "you" or "me" when it came to student achievement.

One implication for me as a superintendent is the importance of central office support for the building level administrators and teachers as they begin to implement any type of school improvement process. It is crucial for the superintendent to work to put the structure in place to support the process as well as provide the resources necessary to ensure the necessary time is available for collaboration and planning.

**Recommendations for Further Research**

This research was conducted at the secondary high school level, where change is more difficult. For future research I would suggest reviewing the implementation of a data-based decision model at the elementary and middle school level with a comparison of the three different levels. Each grade level has their unique approach to change and I recommend the

comparison of the implementation and reactions of teachers and administrators. What are the similarities and differences among the different levels?

For future research I would also be more intentional about finding areas of weakness and probing for those. An outside researcher may have more success in finding additional challenges to the process.

I would also consider comparing inexperienced teachers to veteran teachers and see who are more adaptable to the process. How can school leaders better promote teachers becoming proficient in analyzing and interpreting data and then using the data to impact teaching practices and strategies within the classroom?

Another area for further consideration is the comparison of how teachers of different subjects interpret data. How do math teachers compare to English teachers as they develop data interpretation skills?

Lastly, I would recommend comparing urban schools with suburban and rural schools. When teachers are faced with a greater proportion of students from low economic status, what is the difference in teachers and how they value and utilize data?

**Summary**

This study in an urban high school examined the role of the school administrators and teachers in implementing a school improvement plan that utilized a data based decision-making model as well as strengths and weaknesses of the implementation. The importance of interpreting and analyzing data was apparent throughout the study as was the impact of the data on instructional practices within the classrooms. It was also clearly noted that there must be professional development related to analyzing and interpreting data as this is an acquired skill. Teachers and administrators felt empowered to be educational leaders because they had a

mechanism by which they met their students' needs and impacted student academic achievement. The data-driven decision-making process provided an intentional collaborative approach to the education process and teachers and administrators alike were empowered to make intentional changes within the classrooms. There was also a common language because of the common tools and practices that were present in the classrooms and utilized by the teachers and administrators alike.

Although there were many positive things that emerged there were some barriers that we need to address. The monitoring of this process by administrators was intrusive to teachers, especially sharing their data with other teachers. Once the process was in place and administrators demonstrated that the data was not viewed as interpretive and teachers utilized each other as resources, the teachers were much more comfortable sharing their data. Another barrier was having time for collaboration between teachers. Administrators were committed to providing the time the teachers needed and this is an essential part of a data-driven decision-making process.

The data-driven decision-making process presented in this study provided examples of teachers and administrators working together to meet the needs of students. The process provided a non-threatening culture where student achievement and educational practices aligned to ensure that student needs were addressed at their individual levels and educational leadership and collaboration thrived among educators.

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Appendix A

IC 20-32-5 Regarding ISTEP

**IC 20-32-5**

Chapter 5. Indiana Statewide Testing for Educational Progress

IC 20-32-5-1

Purposes of ISTEP

Sec. 1. The purposes of the ISTEP program developed under this chapter are as follows:

(1) To assess the strengths and weaknesses of school performance.

(2) To assess the effects of state and local educational programs.

(3) To compare achievement of Indiana students to achievement of students on a national basis.

(4) To provide a source of information for state and local decision makers with regard to educational matters, including the following:

(A) The overall academic progress of students.

(B) The need for new or revised educational programs.

(C) The need to terminate existing educational programs.

(D) Student readiness for postsecondary school experiences.

(E) Overall curriculum development and revision activities.

(F) Identifying students who may need remediation under IC 20-32-8.

(G) Diagnosing individual student needs.

(H) Teacher education and staff development activities.

*As added by P.L.1-2005, SEC.16. Amended by P.L.246-2005, SEC.176.*

**IC 20-32-5-2**

**Subject areas**

Sec. 2. ISTEP program testing shall be administered in the following subject areas:

(1) English/language arts.

(2) Mathematics.

(3) Science, in grade levels determined by the state board.

(4) Social studies, in grade levels determined by the state board.

*As added by P.L.1-2005, SEC.16.*

**IC 20-32-5-3**

**Content of tests**

Sec. 3. To carry out the purposes described in section 1 of this chapter, each English/language arts and mathematics test developed for use under the ISTEP program test must include the following:

(1) A method of testing basic skills appropriate for the designated grade level, including multiple choice questions.

(2) A method of testing applied skills appropriate for the designated grade level, including short answer or essay questions and the solving of arithmetic or mathematical problems.

(3) A method of testing and grading that will allow comparison with national and international academic standards.

*As added by P.L.1-2005, SEC.16.*

**IC 20-32-5-4**

**Duties of board, state superintendent, and department**

Sec. 4. (a) The state board shall:

(1) authorize the development and implementation of the ISTEP program; and

(2) determine the date on which the statewide testing is administered in each school corporation.

(b) The state superintendent is responsible for the overall development, implementation, and monitoring of the ISTEP program.

(c) The department shall prepare detailed design specifications for the ISTEP program that must do the following:

(1) Take into account the academic standards adopted under IC 20-31-3.

(2) Include testing of students' higher level cognitive thinking in each subject area tested.

*As added by P.L.1-2005, SEC.16*

IND CODE § 20-32-5-16 addressed the needs of students with disabilities and the state assessment system.

**IC 20-32-5-16**

**Children with disabilities**

Sec. 16. (a) A student who is a child with a disability (as defined in IC 20-35-1-2) shall be tested under this chapter with appropriate accommodations in testing materials and procedures unless the individuals who develop the child's individualized education program determine that testing or a part of the testing under this chapter is not appropriate for the student and that an alternate assessment will be used to test the student's achievement.

(b) Any decision concerning a student who is a child with a disability (as defined in IC 20-35-1-2) regarding the student's:

(1) participation in testing under this chapter;

(2) receiving accommodations in testing materials and procedures;

(3) participation in remediation under IC 20-32-8; or

(4) retention at the same grade level for consecutive school years;

shall be made in accordance with the student's individualized education program in compliance with the ISTEP program manual and federal law.

*As added by P.L.1-2005, SEC.16.*

In 2005 the U.S. Department of Education passed a new policy that permitted states to create alternate assessments for students with disabilities.

The U.S. Department of Education recently announced a new policy with respect to students with persistent academic disabilities under the bipartisan No Child Left Behind (NCLB) education reform law.

> **New Policy:** States may develop modified academic achievement standards and use alternate assessments based on those standards for students who have persistent academic disabilities and are served under the Individuals with Disabilities Education Act. States may include proficient scores from such assessments in making adequate yearly progress (AYP) decisions but those scores will be capped at 2% of the total tested population. This provision does not limit how many students may be assessed against modified achievement standards. Individualized education program (IEP) teams will make the decision about which individual students should take such an assessment.
>
> **Continued Policy:** States may continue to use alternate assessments based on alternate achievement standards for students with the most significant cognitive disabilities. States may continue to include proficient scores from such assessments in making AYP decisions and those scores will still be capped at 1% of the total tested population. Proficiency for all other students above the 1% and 2% cap will be measured against grade-level achievement standards. IEP teams will continue making the decision about which individual students should take such an assessment. ("U.S. Department of Education," 2005, para. 2)

Appendix B

IC 20-32-5 Assessment Scoring

**IC 20-32-5-5**

General language arts essay questions; scoring rubric; anchor paper

Sec. 5. The department shall make general language arts essay scoring rubrics available to the public at least four (4) months before the administration of a test. An essay question, a scoring rubric, or an anchor paper used in the ISTEP program must not seek or compile information about a student's:

(1) personal attitudes;

(2) political views;

(3) religious beliefs;

(4) family relationships; or

(5) other matters listed in IC 20-30-5-17(b).

The ISTEP program citizens' review committee shall determine whether an essay question or a scoring rubric complies with this section.

*As added by P.L.1-2005, SEC.16. Amended by P.L.73-2011, SEC.18.*

**IC 20-32-5-6**

**Scoring of student responses**

Sec. 6. The scoring of student responses under an ISTEP program test:

(1) must measure student achievement relative to the academic standards established by the state board;

(2) must adhere to scoring rubrics and anchor papers; and

(3) may not reflect the scorer's judgment of the values expressed by a student in the student's responses.

*As added by P.L.1-2005, SEC.16.*

**IC 20-32-5-7**

**Reports of scores in mathematics and English/language arts**

Sec. 7. This subsection applies to reports of scores in mathematics and English/language arts. Reports must:

(1) provide scores indicating student performance relative to each of the academic standards:

(A) established by the state board; and

(B) assessed by the test;

(2) be related to passing scores established by the state board; and

(3) contain the information listed in subdivisions (1) and (2) for the following levels:

(A) Individual student.

(B) Classroom.

(C) School.

(D) School corporation.

(E) Indiana.

*As added by P.L.1-2005, SEC.16.*

**IC 20-32-5-8**
**Reports; guide for interpreting scores**

Sec. 8. Reports of student scores must be:

(1) returned to the school corporation that administered the test; and

(2) accompanied by a guide for interpreting scores.

*As added by P.L.1-2005, SEC.16.*

**IC 20-32-5-9**
**Test scores; inspection; rescoring**

Sec. 9. (a) As used in this section, "ISTEP program test" includes any statewide assessment that a student is required to complete.

(b) After reports of student scores are returned to a school corporation, the school corporation shall promptly do the following:

(1) Give each student and the student's parent the student's ISTEP program test scores.

(2) Make available for inspection to each student and the student's parent the following:

(A) A copy of all questions that are not multiple choice or true and false and prompts used in assessing the student.

(B) A copy of the student's scored responses.

(C) A copy of the anchor papers and scoring rubrics used to score the student's responses.

A student's parent may request a rescoring of a student's responses to an ISTEP program test, including a student's essay.

(c) A student's ISTEP program test scores may not be disclosed to the public.

*As added by P.L.1-2005, SEC.16. Amended by P.L.286-2013, SEC.108.*

**IC 20-32-5-11**
**School corporation compilation of results**

Sec. 11. Each school corporation shall compile the total results of the ISTEP program tests in a manner that will permit evaluation of learning progress within the school corporation. The school corporation shall make the compilation of test results available for public inspection and shall provide that compilation to the parent of each student tested under the ISTEP program.

*As added by P.L.1-2005, SEC.16.*

**IC 20-32-5-12**
**Annual school corporation performance report**

Sec. 12. The department shall develop a format for the publication by school corporations in an annual performance report required by statute of appropriate academic information required by the department, including ISTEP program test scores, in a manner that a reasonable person can easily read and understand.

*As added by P.L.1-2005, SEC.16.*

**IC 20-32-5-13**
**School results**

Sec. 13. The school corporation shall provide the ISTEP program test results on a school by

school basis to the department upon request.
*As added by P.L.1-2005, SEC.16.*

**IC 20-32-5-14**
**Student results; consent**

Sec. 14. Upon request by the commission for higher education, the department shall provide ISTEP program test results to the commission for those students for whom the commission under 20 U.S.C. 1232g has obtained consent.
*As added by P.L.1-2005, SEC.16.*

## Appendix C

## Learning Log Meeting Agenda

Subject/Grade Level:

Date:

Meeting norms:

- All meetings will last 45 minutes.
- All teachers will attend meeting with their data.
- All teachers will be prepared for the below items.

Learning Log Protocol:

1. What re-teaching strategies did you use to remediate these strategies?

2. How did you assess the student's progress?

3. Discuss challenges/successes with the indicators for this window.

4. Point our lowest indicator in the data.

5. What is the story behind the data? What contributed to the high and low scores?

6. Highlight two specific students – positive or negative.

7. "Strategy Share" – each person shares a management, engagement, or instructional strategy that worked for each teacher during the window.

8. What are the strategies for re-teach/enrichment?

9. Looking ahead…how can we support each other?

10. Which students can you guarantee for the next assessment window?

## Appendix D

### First Administrative Interview

1. What is your comfort level with the 8-Step Process?

2. Explain how you disaggregate your student's data and produce a plan that addresses their deficiencies?

3. What role has data played in classroom instruction? Have you seen a direct correlation to the data and what takes place in the classroom? If so, please give an example.

4. What is your assessment of your teachers' abilities to interpret data?

5. What is your plan to develop data disaggregation skills in your new teachers?

6. What is the most useful student data that you have access to?

7. Do you have a plan to address deficiencies that are present across the board and if so, please provide the details of that plan?

8. Do you have a plan to address individual deficiencies and if so, please provide the details of that plan?

# Appendix E

## Second Administrative Interview

1. Are your teachers using student achievement data affectively? If so, what evidence do you have to support this?

2. What are you doing to impact your new teacher's understanding of the 8-Step Process?

3. How are you monitoring those teachers who struggle with disaggregating data and what steps are you taking to help them better understand this process?

4. What evidence do you have that indicates your teachers using data in the classroom?

5. Do you have evidence of this practice that you can share?

6. How are your teachers measuring their student's progress and mastery of skills?

7. Do you have proof that the students are benefitting from this process?

## Appendix F:

## Third Administrative Interview

1. What evidence do you have that your teachers using student achievement data affectively?

2. How are your new teachers progressing is their understanding of the 8-Step Process?

3. Do you have evidence that your teachers who struggled with the disaggregation of data have improved in this area?

4. What have you done to ensure that your teachers using data in the classroom? Do you have evidence of this practice that you can share?

5. How are your teachers measuring their student's progress and mastery of skills?

6. Please provide evidence of the benefits your students are experiencing as a result of this process?

7. What will you do differently first semester of next year related to the 8-Step Process?

Appendix G

IRB Forms

**Recruitment Letters for Interviews**

Greetings Administrator,

My name is Todd Terrill and I am conducting research on the role of administrators in the data based decision-making process. I have observed the data-driven process in multiple schools and it seems that while each administrator must play an active role in this process, each has their own approach to the process. I am also interested in how each administrator addresses the barriers and concerns of this process. This research will consist of three interviews with you, observations of Leaning Log Meetings, and analyzing Learning Log Meeting documents. I will also be focusing on what the administrator does to help the teachers grow professionally throughout the process.

Please read the following consent form. If you decide to help me with this study, please sign the form and return it to me in one of three ways:

1. You may print, sign, scan, and send it the completed form in an email to tterrill@muncie.k12.in.us

2. You may print, sign, and return the completed form through school mail.

3. You may print, sign, and mail the completed form to:

   Todd Terrill
   Muncie Community Schools
   2501 N Oakwood Ave.
   Muncie, IN 47304

After I receive your consent to participate, I will contact you and arrange a meeting with you regarding the details of this process.

Thank you for your consideration,

Todd Terrill

## Informed Consent Form for Administrative Participants

**Study Title** **The Administrator's Role in Data-driven Instruction**

**Principal Investigator: Todd Terrill, Ball State University**
**taterrill@bsu.edu 765-993-3505**

### Study Purpose and Rationale

I want to study the role of the building administrators in the process of implementing data-driven models in their schools. I have observed the data-driven process in multiple schools and it seems that while each administrator must play an active role in this process, each has their own approach to the process. I am also interested in how each administrator addresses the barriers and concerns of this process. Additionally, as I observe Leaning Log Meetings and analyze Learning Log Meeting documents, I will also be focusing on what the administrator does to help the teachers grow professionally throughout the process.

### Inclusion/Exclusion Criteria

- You have been selected to participate in this study because you are a secondary administrator at Muncie Central High School and you are responsible for conducting Learning Log Meetings.
- You must be 21 years or older to participate.
- Any administrator whom I am responsible for evaluating will be excluded from this study.

### Participation Procedures and Duration

If you agree to participate in the study, the primary investigator Todd Terrill will interview you three times throughout this school year, observe your Learning Log Meetings, analyze the teachers completed Learning Log Agendas, and analyze your summary Learning Log Meeting Agendas. This study will begin with your Learning Log Meetings this fall and conclude this spring.

### Audio Tapes

To ensure accuracy, interviews will be taped. Each interview is expected to last 45 minutes. Once the interview is concluded, a transcription of the interview will be coded and analyzed in terms of the themes that emerge. Only Todd Terrill will have access to the tape. The narrative transcripts will be stored on a password protected computer. Once transcribed, a pseudonym will be ascribed to the transcript so that no identifiable information will be attached to the comments. All recordings will be destroyed once transcription is complete. Do I have your permission to tape this interview?

My initials in the following box indicate my permission to audio tape the interview: ☐

### Data Confidentiality

Your interview data will be assigned a pseudonym, so the data remains confidential. The researcher therefore protects participants' identities from being associated with the

data. Summary data that is shared with the school will be described aggregately as school-wide strengths and school-wide themes for possible improvement. No individual teachers or classrooms will be identifiable. The data will be kept for no more than three years (post completion).

**Storage of Data**
During the research study, the list of teachers' names and their corresponding assigned codes will be locked in the researcher's file cabinet. After data analysis is completed, the list of teachers' names and their corresponding code will be shredded and then sent for trash collection. Only the principal investigator will have access to the data. Your interview data will be deleted when the study is completed.

**Risks or Discomforts**
There are no anticipated risks for participating in this study.

**Benefits**
The benefit to you and your school from your participation in this study will be focused attention placed on the fidelity of using data to drive instruction in your classrooms.

**Voluntary Participation**
Your participation in this study is completely voluntary and your participation in this study will not affect your standing or employment within your school or School Corporation. Please feel free to ask any questions of the investigator before signing this form and at any time during the study.

**IRB Contact Information**
For questions about your rights as a research subject, please contact Director, Office of Research Integrity, Ball State University, Muncie, IN 47306, (765) 285-5070, irb@bsu.edu."

**Study Title:** The Administrator's Role in Data-Driven Instruction

**Principal Investigator:** Todd Terrill, Ball State University taterrill@bsu.edu 765-993-3505

## Consent

I, _____, agree to participate in this research project entitled, **"The Administrator's Role in Data-driven Decision Instruction"** I have had the study explained to me and my questions have been answered to my satisfaction. I have read the description of this project and give my consent to participate. I understand that I will receive a copy of this informed consent form to keep for future reference.

To the best of my knowledge, I meet the inclusion/exclusion criteria for participation (described on the previous page) in this study.

_____ _____

Participant's Signature Date

## Researcher Contact Information

Principal Investigator:
Todd Terrill, Graduate Student
Department of Educational Leadership Leadership
Ball State University
Muncie, IN 47306

Telephone: (765) 747-5345
Cell: (765) 993-3505
Email: taterrill@bsu.edu

Faculty Supervisor
Dr. Marilynn Quick
Department of Education
Ball State University
Muncie, IN 47306

Telephone: (765) 285-3287
Email: mquick@bsu.edu

## Informed Consent Form for Teacher Participants

**Study Title** **The Administrator's Role in Data-Driven Instruction**

**Principal Investigator: Todd Terrill, Ball State University**
**taterrill@bsu.edu 765-993-3505**

### Study Purpose and Rationale

I want to study the role of the building administrators in the process of implementing data-driven models in their schools. I have observed the data-driven process in multiple schools and it seems that while each administrator must play an active role in this process, each has their own approach to the process. I am also interested in how each administrator addresses the barriers and concerns of this process. Additionally, as I observe Leaning Log Meetings and analyze Learning Log Meeting documents, I will also be focusing on what the administrator does to help the teachers grow professionally throughout the process. While the information gathered for this research will be collected during regular working hours, all interpretation of the data collected will be completed outside of regular working hours.

### Inclusion/Exclusion Criteria

- You have been selected to participate in this study because you are a teacher of a state tested subject at Muncie Central High School and you participate in Learning Log Meetings.
- You must be 21 years or older to participate.
- Any teacher whom I am responsible for evaluating will be excluded from this study.

### Participation Procedures and Duration

If you agree to participate in the study, the primary investigator Todd Terrill will analyze your completed Learning Log Agendas. This study will include the Learning Log Meetings this school year.

### Data Confidentiality

Your data will be assigned a pseudonym, so the data remains confidential. The researcher therefore protects participants' identities from being associated with the data. Summary data that is shared with the school will be described aggregately as school-wide strengths and school-wide themes for possible improvement. No individual teachers or classrooms will be identifiable. The data will be kept for no more than three years (post completion).

### Storage of Data

During the research study, the list of teachers' names and their corresponding assigned codes will be locked in the researcher's file cabinet. After data analysis is completed, the list of teachers' names and their corresponding code will be shredded and then sent for trash collection. Only the principal investigator will have access to the data. Your interview data will be deleted when the study is completed.

### Risks or Discomforts

There are no anticipated risks for participating in this study.

**Benefits**
The benefit to you and your school from your participation in this study will be focused attention placed on the fidelity of using data to drive instruction in your classrooms.

**Voluntary Participation**
Your participation in this study is completely voluntary and your participation in this study will not affect your standing or employment within your school or School Corporation. Please feel free to ask any questions of the investigator before signing this form and at any time during the study.

**IRB Contact Information**
For questions about your rights as a research subject, please contact Director, Office of Research Integrity, Ball State University, Muncie, IN 47306, (765) 285-5070, irb@bsu.edu."

**Study Title:** The Administrator's Role in Data-Driven Instruction

**Principal Investigator:** Todd Terrill, Ball State University taterrill@bsu.edu 765-993-3505

## Consent

I, _____, agree to participate in this research project entitled, **"The Administrator's Role in Data-Driven Decision Instruction"** I have had the study explained to me and my questions have been answered to my satisfaction. I have read the description of this project and give my consent to participate. I understand that I will receive a copy of this informed consent form to keep for future reference.

To the best of my knowledge, I meet the inclusion/exclusion criteria for participation (described on the previous page) in this study.

_____ _____

Participant's Signature Date

## Researcher Contact Information

Principal Investigator:
Todd Terrill, Graduate Student
Department of Educational Leadership
Ball State University
Muncie, IN 47306

Telephone: (765) 747-5345
Cell: (765) 993-3505
Email: taterrill@bsu.edu

Faculty Supervisor
Dr. Marilynn Quick
Department of Education Leadership
Ball State University
Muncie, IN 47306

Telephone: (765) 285-3287
Email: mquick@bsu.edu


September 25, 2014

Ball State University School of Graduate Studies:

I have discussed with Todd Terrill his interest in observing our Learning Log Meetings and analyzing our Learning Log Meeting agendas as a part of his research project and dissertation. As the principal of Muncie Central High School, I fully support his efforts in this area and grant him permission to conduct this research.

If at any point Ball State University needs additional information, has further questions, or needs additional documentation from Muncie Central High School, please do not hesitate to contact my office.

Sincerely,

Tom Jarvis
Principal
Muncie Central High School

To: Teachers of Muncie Central High School

Re: Participation in a Ball State University Research Study

Date: September 25, 2014

As a Graduate Student at Ball State University I am conducting a study regarding data-driven instruction. The state of Indiana continues to place more importance on student academic achievement, and I am interested in the process of data-driven instruction and in particular the administrators' role in data-driven instruction. I will be studying the data-driven instruction process at Muncie Central high school.

Participants from Muncie Central High School will include: 9th grade English teachers, algebra teachers, and biology teachers, and three administrators, Chuck Reynolds, Gerry Moore, and Rhonda Ward. **Please note that the focus of this study will be on the administrators' role and information collected will be coded and kept secure for no longer than one year after the conclusion of the study.**

I will be interviewing the administrators, observing Learning Log Meetings, and analyzing Learning Log Meeting documents. I hope to learn the role of the administrators in using student data to drive instruction in the classroom. I appreciate your willingness to play a part in this study.

Sincerely,

Todd Terrill